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Seals
of the
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The Ideals of the I. C. S. Fraternity of the World

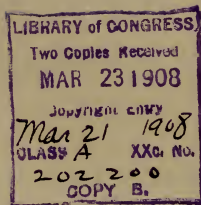
A Commentary Upon the Ritual
of Initiation in the
Matriculate Degree



1908

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Preface



The purpose of this book will be readily seen as its pages are read: it is intended to illustrate and enforce the ritual of obligation used in the Matriculate Degree of the I. C. S. FRATERNITY OF THE WORLD. The language of a ritual must necessarily be brief and ornate—a stately epitome of the ideals for which the Order stands. If it is of any permanent value it must have behind it the testimony of experience. Such testimony is gathered and arranged in the following chapters, with the sincere hope that it may stimulate the members of the FRATERNITY to realize their personal possibilities. Success is contagious. Achievement inspires still greater achievement. Men march faster and farther when they march in step.

In the ceremony of initiation each Matriculate promises to “obtain and study diligently the commentary upon this ritual, entitled: ‘The Ideals of the I. C. S. FRATERNITY’ until I am familiar with its contents.” In so doing, imagination, ambition, and conscience will be aroused, new incentives to success will be generated, the way to accomplish still greater results will be found, and life will be animated and directed by a clear and determined purpose. Enthusiasm quickly passes into energy and energy needs only guidance to become proficiency.

Particular stress is laid upon the necessity of forming the *Study Habit*, because thousands of examples can be cited in which the *Study Habit* has proved to be the firm foundation for great achievements. We believe that all men who are worthy of success in any direction will instantly adopt such a habit when they understand its fundamental importance.

This book should be kept always near at hand. When times of discouragement or hours of doubt come—as they do come to all men—and the will grows slack or weak in command, new motives and fresh courage will be created by reading again this record of human endeavor and achievement.



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Habit



Habit



The difference between men who succeed in life and men who fail lies primarily in seeing and seizing opportunity. We are living in the age of multitudinous opportunities: they stare us in the face every day, they almost plead with us to put out our hands and grasp them, they come laden with the most tempting rewards. But each opportunity, as it passes, returns no more; another may come, better or worse, but not the same one. Yet, however many and of whatever value, only he who is trained can see and seize them. It depends upon himself and himself alone.

The I. C. S. Fraternity is Educational

Education fits a man to appreciate and to make the most of his opportunities. There was a time when a man's life was not his own—it belonged to a feudal baron or to a militant state. The individual could cherish no personal ambition of developing his own powers, or of making his own place in society. That condition has passed away forever. A man who does not thrill to his opportunities today has the soul of a slave and ought to have lived in the land and age of serfs. We stand on the threshold of unmeasured possibilities, a thousand voices are shouting for trained

ability, numberless doors of promise are swinging wide with welcome. Almost every industry is in its infancy and is demanding clear brains and skilled hands to guide it to its larger development; every profession is seeking for men of disciplined mind to cope with the ever-enlarging possibilities.

But it is not simply that there are so many places to fill, just so many jobs to do, in the world, and that each man is only one out of many striving for the coveted position; opportunities are very often only possibilities—the possibility of meeting a mechanical need, of supplying an industrial deficiency, even of creating an entirely new field of commerce. Ichabod Washburn was a New England blacksmith, working diligently at his anvil. One day he learned that no steel wire was being made in America; Great Britain had a monopoly of the trade. He determined to make the best wire that could be made and win the market. The new departure involved study and experiment, but he persisted until he drew nearly all the fine wire used in America. John D. Rockefeller, when every one was rushing to buy oil lands, saw that the oil could be immeasurably improved in quality and value by being properly refined. He took up the question from a scientific standpoint, fitted up a laboratory, studied chemistry, carried on experiments day and night, until he was able to triple the value of every gallon of crude oil he could get. Eli Whitney saw the piles of Southern cotton being treated by hand, and realized that if a

machine for cleaning the green cotton-seed could be devised it would do the work of a hundred men and make the Southern States prosperous. He set to work with a will, overcame all obstacles, and invented the cotton-gin. Ezra Cornell saw that telegraphy could be only an expensive luxury if single wires had to be insulated by a sheathing and laid in trenches underground; so he set up poles, insulated the wires with bottles, and made the world his debtor. Elias Howe determined to build a mechanical sewing machine after witnessing and being convinced of the slowness of hand labor. Bessemer invented his famous steel process because he believed that steel would take the place of iron and wood if it could be made cheaply, quickly, and in sufficient quantity. McCormick built his reaper and harvester when he had estimated that the population of America was increasing so rapidly that it would soon be impossible to feed the many millions if grain had to be mowed and bound by hand.

Wherever there is a possibility of cheapening production by new methods, of producing two articles where only one is now available, of quickening transportation, of simplifying processes, of adapting natural forces to mechanical ends, of saving time or strength to the worker—*there* is an opportunity. Scattered all over the earth—latent in the moving air, dormant in the upturned soil, pulsing in every flowing stream, are fabrics and forces which say, "We are yours, if you will use us." Every day

hundreds of them are seen and seized by men who are educated to appreciate their value. They belong to no one by inheritance or monopoly; the most shrewd or skilful man cannot get a corner on gravitation, or electricity, or chemical action, or mechanical force. These things are the servants of any one who will understand and utilize them. When a new invention or discovery is made known to the world there are thousands who say, "Of course, how simple; I could have done that if I had only thought."

**Education: the
Power to Achieve**

"If I had only thought!" That is the open secret of failure. Thought is observation, reflection, conclusion. To teach men to think quickly, correctly, and consecutively, is the mission of education. The man who puts no thought into his work is only a mechanical device for carrying out some other man's thinking; the difference between the human machine and the metal machine being that the one feels and the other does not.

But education is not the mere process of gathering knowledge; a man may be taught a great many things and yet be uneducated. The brain can be stuffed just as the stomach, but if the mind-food or the body-food is not digested, it is wasted. Education when properly understood is the development of our powers, so directing and strengthening and disciplining them that they can achieve the ends for

which they were created. Life's opportunities are entirely missed and its possibilities unrealized by the man who has neglected the training of his abilities—he can neither see nor seize them. This view of education places its benefits within the reach of all. It is a process which may be carried out by any one who is determined and patient. Too many men who received but little schooling in their youth, think that they are out of the race for success. "If I had only been to college!" they say, with a discouraged tone, as if resigned to perpetual failure. There is no doubt that a college or university training is a very great advantage in the struggle for achievement. It gives the man a good start, places him at an advantage in the beginning of his career, furnishes him the immediate use of disciplined faculties; he has been trained to observe, to reason, to decide, to get along with fewer doubtful experiments than his competitors. But it is folly to believe that a man is out of the race, or permanently disqualified for achievement, because circumstances have not permitted a college education. Benjamin Franklin and Abraham Lincoln did not go to college; James Watt, George Stephenson, Humphrey Davy, and Richard Arkwright—the four great Englishmen to whom civilization owes so much—did not attend college; Robert Fulton, Elias Howe, John Ericcson, Ezra Cornell, Peter Cooper, Cyrus W. Field, and Thomas Edison are among the famous inventors who never went to college; Commodore Vanderbilt,

A. T. Stewart, Johns Hopkins, Marshall Field, Philip D. Armour, and John Wanamaker are examples of successful merchants who missed the advantages of college; Jay Gould, Russell Sage, Henry Clews, Charles Broadway Rouss, John D. Rockefeller, Andrew Carnegie, Leland Stanford, Charles M. Schwab, and J. J. Hill are a few of the giants of finance who started life without the training of a college. Yet to speak of any one of these men as uneducated would be unfair and untrue. They were educated because their powers were wisely directed and well developed.

**Education, Through
the Habits of
Industry, Concen-
tration, and
Self-Reliance**

In almost every instance such men early cultivated the Study Habit. George Stephenson, the inventor of the steam locomotive and the Father of railroads, at eighteen years of age could neither read nor write. He was working as fireman and man of odd jobs in a coal mine. Suddenly he realized that his life would be one of coarse manual toil at the lowest wages unless he could obtain an education. With great resolution he set himself to remedy the consequences of early neglect. At nineteen he could read fluently and sign his name. At twenty he had learned to write with ease and had mastered elementary arithmetic. At twenty-one he had grasped the first principles of dynamics and mechanics. Every hour given to study was snatched

from sleep after working twelve hours a day in the mine. No sooner was a law understood than it was applied and tested. The value of the new knowledge was instantly demonstrated by experiments, and the certainty thus gained was made the reliable foundation for further learning. At the end of five years from the time he began to study, Stephenson built the first-known gravity road, and at the end of fifteen years he had the first practical locomotive running on rails. If a man once gains this STUDY HABIT, the deficiencies of early life may be made up, the limitations which result from a lack of academic advantages may be overcome, and the difficulties which daunt and defeat the untrained worker can surely be mastered.

We may assume that the man who has been deprived of a college course, and who realizes the seriousness of his loss, is willing to spend his time only upon such subjects as are essential to success in the line he has chosen for his abilities. Such a decision would cut out of his studies at least one-half of the subjects usually taken in college. He will spend no time upon general literature, or ancient languages, or declamations and essays—at least, until he has thoroughly mastered the branches in which he is practically interested; likewise, many hours devoted to athletics, clubs, and general society, by college men, will be saved. If, then, only one hour a day is given to study, and no exceptions are allowed in the habit, in less than ten years a man of average

intelligence can certainly get everything essential to industrial or mechanical success which a college course would have provided. That is, he can master the scientific bases and bearings of every branch of the particular subject in which he is interested. He will also have some advantages which the apparently more favored student cannot boast: he will appreciate from experience and test by application every item of knowledge as he secures it.

The possibilities of systematic reading, if the books are well chosen, are almost unlimited. An ordinary man can easily read and digest an average of ten pages a day, even of what is called heavy literature, if he will set aside one hour scrupulously for that purpose. The ordinary book contains about three hundred pages, and he would thus grasp the contents of twelve books per year. Almost any branch of knowledge may be completely mastered in five years if such a habit is persisted in. Sixty books, or their equivalent in pages, if carefully selected and thoughtfully read, will undoubtedly give a man expert knowledge of the subject upon which they treat. When we remember the number of days in each year when many more than one hour could be given to reading, we realize how vast must be the gains of such persistent effort. Too often we think and speak of "educational institutions" as if they were the only means of education. Education is the product of HABIT rather than of institutions, for a man may live within the best educational institution for a

lifetime and unless he has cultivated the STUDY HABIT, he will not profit by his advantages. On the other hand, if he develops the STUDY HABIT as did Franklin, Lincoln, Cyrus W. Field, Peter Cooper, and Andrew Carnegie, he may attain power, wealth, fame, or any other object within the reach of man, and make humanity his debtor.

**The Study Habit:
Its Development**

From the foregoing it will be seen that the STUDY HABIT may be considered the beginning of character building; it forms a sound foundation for all future achievements. The two most striking features of the growth of any HABIT, whether good or bad—regularity and repetition—point the way to the man who determines to form the STUDY HABIT. We venture to make a few practical suggestions, such as have been tried successfully by thousands of men who now hold envied positions in the world. They may act as guide-posts to the man who desires earnestly to make his life a success and yet does not know the way.

I. Launch yourself upon the task with as much impetus as you can command. In doing so bring all of your nature into play—mind, imagination, heart, and conscience. Make a solemn vow to yourself that you *will* do it; place yourself upon your honor to keep that pledge; write your determination upon a piece of paper and sign it as a binding bond, and if tempted

to falter read the obligation and remind yourself that your manhood is at stake.

II. Decide upon the course of study you wish to pursue. This should be done with the utmost care after having estimated your powers to determine along what line you are likely to reach the best results. Usually the thing to which we turn naturally is the one we will be able to do best.

III. Obtain the very best textbook available on the subject selected. There are three kinds of textbooks: the first are written for professors and advanced students, in which all elementary knowledge is taken for granted; the second are written for students in schools and colleges, on the assumption that the teacher will conduct the classwork and explain the difficulties as they arise; the third are planned and written for home study; they are adapted to the student who is without the aid of a personal instructor; they explain each difficulty in clear and simple language; they take no previous knowledge for granted, leading the student from the elementary to the advanced by regular and easy stages; they are arranged in short lessons to fit the needs of the student who can give only a little time each day to study. It is this last-named type of textbook you should obtain.

IV. Set aside a definite time for study, and keep your books and papers always in one place; in this way you will waste no time in setting to work and you will find it more difficult to excuse yourself for not doing the required amount of study.

V. Never allow an exception to your rule. Let your friends know your study hour and hold it as sacred. Put your conscience before the door as sentry and regard any theft of your time as seriously as you would regard a theft of your money. In point of fact, it amounts to the same thing. To make this easier you can set apart another time for outside engagements or pleasures—say one evening a week. When you have made such an arrangement, stick to it as if the destiny of an empire depends upon your fidelity.

VI. If you study at night, allow a few minutes before going to work the next morning for review. You will make some brief notes for this purpose. Such a plan will fix the subject firmly in the mind and give you something definite to think about during the spare moments of the day. It is not difficult to rise one-quarter—or one-half hour earlier; if you persist in it for a week the HABIT will be acquired.

VII. Whatever you gain from your textbooks put to a practical test as quickly and as often as possible. In this way you will also form the HABIT of passing readily from knowing to doing; and, becoming convinced of the value of knowledge, you will be eager to gather more.

VIII. By way of encouragement, you must remember that it is only the first steps in the formation of a HABIT that are difficult. To study will be more tedious the first week than the second, and the

second more irksome than the third; but the regular repetition will soon make the effort normal, and it will grow to be a delight to turn the attention to serious mental work.

In order to avoid unnecessary difficulties, the following hints deserve attention:

There are certain physical conditions which make study irksome and almost impossible. Students sometimes find themselves incapable of close attention to a printed page or a mechanical drawing—the effort brings weariness, headache, nervousness. They make the error of believing themselves unfitted for mental work. The fault does not lie in their mental powers at all—it is generally physical.

If you suffer from such feelings, have your eyes examined by the most skilful eye specialist you can reach. A large percentage of men today have defective sight; their ordinary work does not reveal the fact, but as soon as they begin to study under artificial light they are aware of a handicap. If it is necessary to wear glasses, do not purchase them at the nearest store; have them made under a doctor's orders and according to his specifications.

Always keep the air fresh in the room where you study; open a window whenever possible, if but an inch. Air affects not only the lungs but the brain.

In using the evening for study, observe two or three simple rules:

Do not eat heartily at supper. Stop after eating a reasonable amount and before you are conscious

of a feeling of fulness. Then, after your studies are finished, enough nourishment may be taken, if it is felt necessary, to keep the stomach active during the early hours of sleep.

Avoid sitting so near to a lamp that the heat is felt upon your head. If drowsiness threatens to put a stop to the work, a part of the study should be done standing. The change of position will insure a redistribution of the blood. Five minutes of physical exercise will effect the same result to a larger degree, and study may be resumed with comparative ease.

**Power Resides in
Character**

The STUDY HABIT, apart from its value as an apprenticeship for effective work, has perhaps its highest worth as a producer of character. The value of character is so obvious that it scarcely needs enforcing. "Consider the importance of a good character to your success in the world," writes Hawes. "If a young man completes the time of his apprenticeship or clerkship with good principles and a fair character, he is made for life. His reputation is better to him than the richest capital. It makes friends, it creates funds, it draws around him patronage and support, and opens for him a sure and easy way to wealth, to honor, to happiness." Horace Greeley once said, "Fame is a vapor, popularity an accident, riches take wings, those who cheer today may curse tomorrow; only one

thing endures—character.” “My road,” said Canning, “must be through character to power; I will try no other course, and I am sanguine enough to believe that this course, though not perhaps the quickest, is the surest.” President Roosevelt has summed it up in one unmistakable sentence: “The chief factor in any man’s success or failure must be his own character.”

Character is the essential self. Strip a man of all titles, honors, clothes, wealth, rank, or whatever is artificial, and that which remains is character. Character is what the man is, nothing less and nothing more. Many things of an external nature may aid a man in reaching success in spite of disadvantages and obstacles. But character is power—the power a man gathers or generates in his own personality. Walter Scott, through his connection with an unreliable business house, had his fortune suddenly swept away. It was known that he possessed vast ability and that by tireless industry he might recover his lost position. His creditors met to discuss the problem. Their chances of saving anything from the wreck were very slight. A few of them were for pressing Sir Walter into bankruptcy and snatching what they could of his personal property. But those who knew the great Scotchman best felt that his chief asset lay in his character. “Give him a chance,” they said, “and Sir Walter will find a way to meet his obligations.” They gave him the chance solely on account of his character. With character as a foundation Scott

retrieved his ruined fortune, enriched the world with a wealth of noble literature, and died amid the love and homage of his fellows. Cyrus W. Field, in laying the Atlantic cable, found himself involved in difficulties so vast and critical that for years the project hung in the balance and almost every one predicted defeat. The task took thirteen years, Field's personal fortune was sunk in the enterprise, one by one his friends and staunchest supporters were removed by death, the Civil War broke out and England and America were not upon the best of terms, money became scarce and almost impossible to obtain; yet, in spite of all, Field succeeded. His character was so esteemed that even when men had the gravest doubts of the success of his plans, they nevertheless supported them because they believed in the man. What governmental diplomacy could not do—win the confidence of the British nation—Field did by sheer strength of character. It may be said, therefore, that the character of one man linked the two hemispheres and began a new era in history. Ulysses S. Grant, the hero of a hundred battles, the President of the United States, the idol of the nation, found himself bankrupt and in broken health at the age when nothing but honor and ease should have been his lot. But he had one asset—character! The whole world believed in him and cheered him with reverence and trust as he struggled in penury and pain to retrieve his position. Everywhere in life character is the best collateral, the

foundation of credit, and the guarantee of achievement.

Character: the If, then, the testimony of famous
Product of Habit men and the observations of experience are correct in placing character as the foremost feature in conquering success, we ought to know how character is produced. It is certainly not born with us; it would be foolish to speak of a babe as possessing character. Character is simply the sum of our habits, the total of our mental, moral, and physical activities. Everything we feel or think or do builds something into our system. Take a man at any moment of his life and examine him and you will find that he is the truthful history of his entire past—not a thought or a deed has been lost. If you could separate him into his component parts, as we separate the elements of a chemical compound, you would be surprised to see that not even the tiniest activity of all his years has been missed or forgotten.

Man: His Own In this sense man is his own
Creator creator. We start life with very little—probably with not more than a will and a capacity. The first conscious acts of life are the formation of habits; children do things because they like to do them or because they are compelled to do them. They do not know at the

time that they are building up the Self which they must carry all through life. "Life," says Amiel, "is but a tissue of habits." Professor James, of Harvard University, states this clearly in his important book "Psychology": "We are spinning our own fates, good or evil, and never to be undone. Every smallest stroke of virtue or of vice leaves its scar. The drunken Rip Van Winkle, in Jefferson's play, excuses himself for every fresh dereliction by saying, 'I won't count this time!' Well! he may not count it, and a kind heaven may not count it; but it is being counted none the less. Down among his nerve cells and fibers the molecules are counting it, registering and storing it up to be used against him when the next temptation comes. Nothing we ever do is, in strict scientific literalness, wiped out. Of course, this has its good side as well as its bad one. As we become permanent drunkards by so many separate drinks, so we become saints in the moral, and authorities and experts in the practical and scientific spheres, by so many separate acts and hours of work. Let no youth have any anxiety about the upshot of his education, whatever the line of it may be. If he keep faithfully busy each hour of the working day, he may safely leave the final result to itself. He can certainly count upon waking up some fine morning to find himself one of the competent ones of his generation, in whatever pursuit he may have singled out."

This law of HABIT determines whether a man shall be a failure or a success in life. A boy in school

shirks the hard lessons because they are hard; that very act is the beginning of defeat. Perhaps later, he chooses the course he wishes to take in the high school or college on the principle that the one with the least number of difficult subjects will suit him best, forgetful that the evasion of hard tasks is fastening the FAILURE-HABIT firmly upon him. When he reaches the point of selecting a line of work, or a profession, he instinctively takes the one containing the fewest difficulties or irksome hours, and by that time he is courting failure earnestly. A little later he dodges the obstacles and evades the hard, knotty problems of his daily occupation, and may be said to be married to failure for life. He masters no branch of his business, and when the time of stress and strain comes he will be found wanting. He has cultivated the FAILURE-HABIT for years and he reaps what he sowed. Another boy determines that he will not be beaten by a difficult lesson. He wins his first triumph. The next obstacle is harder, but he says, "I did the other, why not this?" and with the momentum of his first victory as an initial impulse he wins his second. By the time he enters business the momentum of successively won battles has become a great force; he goes at difficulties, obstacles, problems, just as a hunting-horse takes fences—instinctively, unhesitatingly. He has developed the SUCCESS-HABIT; when the crucial, testing time arrives he will be ready for it and will surely win because he does not know how to fail. John B. Herreshoff, the

designer of the invincible yachts which have held the coveted "Challenge Cup" on the American side of the Atlantic, has been blind from birth. While still a boy he determined not to let the terrible affliction cheat him out of a successful life, he would not allow it even to handicap him. The business he chose seems to be absolutely impossible to one without sight. At the early age of eleven he was learning the lines of a boat by the sense of touch. Soon afterwards he began to make models. He quickly learned to select material by running his hand over it, and a defective beam or plank never escaped detection. Beginning in a modest way, he made row boats and sailing craft of small and simple pattern. He laid it down as a rule never to give in to a difficulty, but to think and work until it was overcome. Every time one of his fast and graceful yachts or schooners outsails its rival, a new illustration is furnished of how the HABIT of conquering obstacles will certainly carry a man to success. The swiftest power boats of the American and British governments were also designed and built by the blind Herreshoff, for he is one of the most original and daring of modern inventors.

**Habit: Repeating
a Previous Action**

It is a feature of human nature to wish to do twice what it has already done once. This tendency to repetition is nothing but HABIT. Seeing that the second attempt is usually easier than the first, we

understand how powerful becomes the liability to constant repetition, until the liability passes into certainty. In this way movements of the mind or body become instinctive and are performed without effort. The achievements resulting from the operation of this law, when the habits are good, form the longest chapter of human progress.

The greatest speech of modern times was undoubtedly Daniel Webster's reply to Hayne. It may have appeared to be an extemporaneous effort when delivered—a sudden outburst of inspired genius; yet it was really the reverse, the product of slowly formed and carefully developed HABIT. At eight years of age Webster bought in a country store a cotton handkerchief which had the Constitution of the United States printed upon it. That night, before the blazing fire on the hearth, he began to learn it, and in a short time had committed every sentence to memory. From that hour he was a student and a collector of everything relating to the American Constitution. He steeped his mind in the history of those principles which underlie constitutional government and liberty; he made constant notes upon his most important conclusions. When Hayne made his attack upon New England, Webster was ready to reply. He had made a profound and prolonged study of the very questions Hayne raised; in his desk he had his notes all carefully arranged and filed; the HABIT of preparation made him invincible. "I was already posted," Webster said later, "and had

only to take down my notes and refresh my memory. In other words, if he had to make a speech to fit my notes, he could not have hit it better."

No one can estimate the immense wealth and happiness brought to the cotton-growing states of the South and to the whole world by Eli Whitney's invention of the cotton gin. But that far-reaching invention was the result of a HABIT contracted long years before. As soon as he could handle a tool he tried to make something. One Sunday, when his father was at church, Eli took his watch, which had been left at home, piece from piece, and had it together again and running before the father returned. The youngster made knives for the family table, constructed violins, and when he wanted to do a piece of work for which he had no tools, he calmly made the tools first. Whenever an emergency arose in which something was demanded which was not in existence, young Whitney undertook to make one. When in Georgia, some years later, and the need of a machine to clean cotton in large quantities became apparent, Whitney's HABIT asserted itself and he said, "I will make one." How well he succeeded the whole world knows.

It was the HABIT of careful observation acquired early in life that enabled Fahrenheit to conceive and perfect the thermometer with the register of degrees of heat and cold which still bears his name.

Thomas A. Edison owes many of his discoveries to HABIT. His habit of carefully testing the quality

of everything he touched led to the discovery of the carbon filament. For months Edison had been thinking and experimenting to obtain what he wanted. One day he scraped some soot from a blackened lamp chimney and true to his investigating habit began to test its properties and forecast its possibilities.* It turned out to be the very substance for which he had been looking so long. Again, the habit of asking "Why?" when anything unusual or unexpected came up in his work, led to the invention of the phonograph. "I was singing to the mouthpiece of a telephone," says Mr. Edison, "when the vibration of the voice sent the fine steel point into my finger. That set me thinking. If I could record the actions of the point and send the point over the same surface afterwards, I saw no reason why the thing would not talk. I tried the experiment first on a slip of telegraph paper and found that the point made an alphabet. I shouted the words, 'Hello! Hello!' into the mouthpiece, ran the paper back over the steel point, and heard a faint, 'Hello! Hello!' in return. I there and then determined to make a machine that would work accurately, and gave my assistants instructions, informing them of my discovery. They laughed at me. But I made them set to. That's the whole story. The phonograph, or sound recorder, is the result of the pricking of a needle."

People who take only superficial views of life may call these wonderful discoveries accidental, a mere

matter of luck, but they were nothing less than the rewards of HABIT.

It was the HABIT of systematic preparation for emergencies, of methodical arrangement of everything with a view to a possible crisis, that made Von Moltke the perfect master of the situation when the Franco-Prussian war broke out. The war was declared at midnight, after Von Moltke had gone to bed. An official awakened him to communicate the news. The great general did not even get up. He said quietly, "Go to pigeonhole No. — in my safe, take the paper numbered — from it, and telegraph as there directed to the different troops of the Empire." He then turned over and went to sleep, awakening the next morning at his accustomed hour. Every one else in Berlin was excited and rushing about with feverish haste, but Von Moltke took his morning walk as usual. A friend met him and said, "General, you seem to be taking it very easy. Aren't you afraid of the situation? I should think you would be very busy." "Ah," replied Von Moltke, "all my work for the time being has already been performed, and everything that can be done now has been done."

Habit: Makes
Effort Easier

Astonishing results can be accomplished by such methodical habits. Émile Littré, the author of the standard French dictionary, did not begin his great task until forty-five years of age, and worked

at it incessantly for the next thirty years. The mere labor of setting the type took thirteen years. Littré himself has told us how he lived and worked by rule or HABIT, and admits that the life was not at all dreary; in fact, it was often lighted up with unexpected pleasures, besides the happy consciousness of daily accomplishment. He says:

“My rule of life included the twenty-four hours of the day and night, so as to bestow the least possible amount of time on the current calls of existence. I rose at eight; very late, you will say, for so busy a man. Wait an instant. While they put my bedroom in order, which was also my study, I went downstairs with some work in hand. It was thus, for example, that I composed the preface of the dictionary. I had learned from Chancellor d’Agnesseau the value of unoccupied minutes. At nine I set to work to correct proofs until the hour of our midday meal. At one I resumed work, and wrote my papers for the ‘Journal des Savants,’ to which I was from 1855 a regular contributor. From three to six I went on with the dictionary. At six, punctually, we dined, which took about an hour. They say it is unwholesome to work directly after dinner, but I have never found it so. It is so much time won from the exigencies of the body. Starting again at seven in the evening, I stuck to the dictionary. My first stage took me to midnight, when my wife and daughter (who were my assistants) retired. I then worked on till three in the morning, by which

time my daily task was usually completed. If it was not, I worked on later; and, more than once, in the long days of summer, I have put out my lamp and continued to work by the light of the coming dawn. However, at three in the morning I generally laid down my pen and put my papers in order for the following day—that day which had already begun. HABIT and regularity had extinguished all excitement in my work. I fell asleep as easily as a man of leisure does, and woke at eight, as men of leisure do. But these vigils were not without their charm. A nightingale had built her nest in a row of limes that crosses the garden, and she filled the silence of the night and of the country with her limpid and tuneful notes.”

Science and Philosophy Agree that Habit is the Deepest Law and Strongest Force in Life

Professor William James is an authority able to speak upon HABIT both from a scientific and a philosophical standpoint. He contends that HABIT has a physical basis; that “an acquired HABIT is nothing but a new pathway of discharge formed in the brain, by which certain incoming currents ever after tend to escape.” The brain is plastic and easily receives impressions. Our nerves, like fine wires, carry impressions or sensations to the brain, and these must find a way out. It may be illustrated thus: Physical exertion on a

warm day sends a sensation, which we call "fatigue," to the brain. Once there it must get out by some action which is a response to the message. Usually we sit, or lie down, if possible. But upon this day in question we are on a crowded street and such an act is not convenient. Nearby is a saloon. We enter and take a drink of liquor as a stimulant. That is the reply which we make to the message signaled along the nerves to the brain; that is, the current of sensation passes out of the brain that way, and, as it passes, it makes a slight path in the soft tissues of the brain matter. The next day, if we feel fatigue, the current which the nerves again carry to the brain will find that slight path and pass along it easily. We shall drink again and with less hesitation than we did the day before. If that continues several days, the slight path will be worn into a groove, and every time a sensation of fatigue is sent to the brain we shall fly to liquor without any effort—instinctively, involuntarily.

To use a different illustration—the formation of HABIT, as a physical grooving of the brain, is just like the history of Broadway, New York. When the city was only a cluster of houses at the point of Manhattan Island, which we now call the Battery, the worthy citizens brought their cows in to be milked along a path which grew broader every day, because, being in the center of the settlement, the people on both sides of it drove their cattle that way. As the village extended into

the country the houses were built upon either side of the cow path, which grew still broader each year as more cows went to and from pasture, until at length it became a well-marked road. Traffic passed along it naturally—simply because it was well marked and convenient—until it has become the longest and busiest thoroughfare in the world. Thus we never give expression to a thought or feeling several times in the same way without making a well-marked track along which the subsequent thoughts and feelings of the same kind will pass easily and without conscious effort.

“ ‘HABIT is second nature! HABIT is ten times nature!’ the Duke of Wellington is said to have exclaimed; and the degree to which this is true no one probably can appreciate as well as one who is a veteran soldier himself. The daily drill and the years of discipline end by fashioning a man completely over again, as to most of the possibilities of his conduct.”

“There is a story,” says Professor Huxley, “which is credible enough, though it may not be true, of a practical joker who, seeing a discharged veteran carrying home his dinner, suddenly called out, ‘Attention!’ whereupon the man instantly brought his hands down, and lost his mutton and potatoes in the gutter. The drill had been thorough and its effects had become embodied in the man’s nervous structure.”

This shows how serious a matter HABIT is, how it holds the secret of success or failure. “Sow an act

and you reap a HABIT; sow a HABIT and you reap a character; sow a character and you reap a destiny." D. O. Mills, the well-known financier of New York, was asked what he considered the foundation of financial success. He replied, "Saving the first one hundred dollars." Then he added, "It is not the money but the HABIT that counts." In the hoarding of that nest egg, many important things will be involved—acts which grow into habits as the little pile slowly increases—thrift, self-denial, good judgment, patience, and carefulness. Each of these will wear the groove in the brain a little deeper as each separate dollar is jealously set aside and guarded. After that point is reached it will be as easy to save five hundred as it was the one hundred. "It is the HABIT that counts!"

**Habit Leads to
Unconscious
Action**

If we had to dress today for the first time in life it would be a long and difficult undertaking.

We should have to study the meaning and probable place of each garment. To put the studs in the shirt, to discover what to do with the unattached cuffs, to decide which was the back and which the front of each article, would present a succession of serious problems. To adjust the necktie alone would involve a large amount of mental and physical effort. Yet every day we dress and undress without giving the process a single

thought. HABIT has made it easy and usually we perform the series of separate acts unconsciously and while thinking of an entirely different subject. Sir James Paget has made an estimate that an expert pianist can strike twenty-four notes in a second. Each note necessitates the passing of a nerve current from the eye to the brain and from the brain to the fingers. Each note requires three movements of a finger, the bending down and raising up, and at least one lateral, making no less than seventy-two motions in a second, not to mention the movements of the wrist and elbow and shoulder, and each requires the control of the will to regulate the speed, force, and direction. Paderewski can do it easily for an hour without pause. But the only way in which the performance is possible is by the unconscious action which nothing but HABIT can give. HABIT does away with the difficult task of making up the mind on every movement or action which must be performed in life. If a man has the HABIT of doing honest work, he does not have to discuss the question every five minutes of how well a thing shall be done; there is only one way to do it and he cannot do it any other. If the STUDY HABIT has been cultivated the student does not have to fight every night to decide whether he will sit down to his books, or spend the evening on the street, or at some place of amusement; he goes to his studies almost unconsciously, as if it were the only course open. When a man has the spendthrift HABIT he can only decide

to deposit money in the bank after a serious wrestle with himself, and then he will probably draw it out the next day; but if he persists in depositing, it will require a still greater effort to persuade him to break his HABIT of thrift and waste his savings.

**The First Steps in
Forming a Habit
Are Difficult**

Quite a conspicuous number of the world's most illustrious scholars were dunces in their boyhood. They had to whip themselves severely before the HABIT of reading or study was formed. The list is too long to give, but it includes such names as Newton, the discoverer of gravitation; Shakespeare, the dramatist; Edmund Burke, the orator; Patrick Henry, the patriot; the Duke of Wellington, Napoleon's conqueror; Stonewall Jackson, the Confederate leader; John Wesley, the apostle and founder of Methodism; Henry Ward Beecher, the prince of preachers; Ulysses S. Grant, President of the United States; Sir Walter Scott, the novelist; Linnæus, the botanist; and Byron, the poet. The early efforts of a dull mind are extremely painful and nothing short of an heroic and inflexible will can ever spur such an one to the initial steps. But when the HABIT of study is once gained by such minds, they usually make the soundest progress and master the subject or business with greater thoroughness than the men of more brilliant intellect. If it could be realized that usually it is only the first

steps in the formation of good habits that are difficult, and that the later ones are easy, tending to unconscious action, many more would set themselves to the development of such HABITS as INDUSTRY, CONCENTRATION, and SELF-RELIANCE.

**A Good Habit is a
Faithful Ally**

We can rely upon the fidelity of a good HABIT with a degree of absolute certainty such as we cannot place in anything else. It is inseparably our own, unshared by others and independent of the conduct of those who surround us. Our money may melt away, our friends may desert us in extremity, our health may suddenly fail, but we may rest assured that the habits we have woven into the texture of our being will remain with us. If we have drilled ourselves to punctuality, thoroughness, temperance, purity, and patience; if we have built into the system the HABITS of INDUSTRY, CONCENTRATION, and SELF-RELIANCE, we can count upon the stability of such acquisitions as we do upon the rising of the sun. They will help to remove all obstacles that impede our path and impel us along the line of progress with the accumulated momentum of every good thought or deed that went to their making. They will steady and encourage us under the reverses and discouragements such as men are bound to meet who move forward to a high and distant goal.

Professor Virchow, of Berlin, says: "How often have I found myself in a state of despondency and with a feeling of depression. What has saved me is the HABIT of work, which has not forsaken me even in the days of outward misfortune—the HABIT of scientific work."

Andrew Carnegie pays a remarkable tribute to the moral value of studious habits when he says of his youthful days: "I was too busy studying to contract the habits that make such inroads on the health and pockets of young men, and this helped me in many ways."

**Not More Difficult
to Form Good
Habits Than
Bad Ones**

A HABIT is only the aggregate of thoughts or acts along one line, as we have already seen. If we make a careful analysis of our feelings when performing the initial acts we shall see that Nature is on the side of good habits. The HABIT of early rising is a difficult one to develop if started late in life; but almost the first time it is attempted it will be manifest that the mind is clearer, the nerves steadier, and the judgment surer in the early morning than at any other time in the day. This shows the attitude of Nature toward the question. The HABIT of INDUSTRY has a similar indorsement. Food is more easily digested, the functions of the body are more regular, the faculties are truer in their exercise, and the mind is more contented, in an industrious

life than in a lazy one. This is Nature saying, "I am on the side of the worker." The triumphs of the men of good habits—and the list comprehends almost all whom the world delights to honor—are proof that they enlisted the forces of the Universe in their own behalf.

On the other hand bad habits are made up of acts which had a deterrent in them when performed for the first time. It is doubtful whether any drunkard enjoyed his very first glass of whisky. The dishonorable worker performed his first dishonest work in fear of detection. The spendthrift's initial squandering aroused a protest from the instinct of acquisition which seems to be born with every creature. The first cigar usually disturbs the stomach to the point of rebellion. The impatience an unpunctual man always feels against another who is late for an appointment proves that the honor of punctuality was a part of our original stock in trade. The ingrained instinct of self-preservation warns men against the early steps of a course that may jeopardize all they hold most dear.

**Beware of Slothful,
Useless, or Perni-
cious Habits**

Good habits are the wings that lift a man to success; bad habits are the weights that sink a man to failure. The successful men of the business world are so convinced of the value of HABIT that although a candidate for advancement

is a superior man in many respects, if he has one known bad HABIT, his chances are ruined. Where one man is thwarted by lack of ability probably fifty are balked by slothful, useless, or pernicious habits. An office boy was dismissed from a New York business-house because of dirty hands; the boy who took his place became a junior partner of the firm in seventeen years, and the president in twenty-one years.

Although bad habits are tenacious and powerful, they are not omnipotent. Doctor Johnson said, "The chains of HABIT are generally too small to be felt till they are too strong to be broken." While not discounting the strength of any HABIT, we believe that Johnson's statement is false.

"When I was young, I was with my foster-father on board a man-of-war," said Admiral Farragut. "I had some qualities that I thought made a man of me. I could swear like an old salt, could drink as stiff a glass of grog as if I had doubled Cape Horn, and could smoke like a locomotive. I was great at cards and fond of games in every shape. At the close of dinner one day, father turned everybody out of the cabin, locked the door, and said:

" 'David, what do you mean to be?'

" 'I mean to follow the sea.'

" 'Follow the sea! Yes, be a poor, miserable, drunken sailor before the mast, to be kicked and cuffed about the world, and die in some fever hospital in a foreign land. No, David, no boy ever trod the

quarterdeck with such principles as you have, and such habits as you exhibit. You'll have to change your whole course of life, if you ever become a man.'

"My father left me and went on deck. I was stunned by the rebuke and overwhelmed with mortification. 'A poor, miserable, drunken sailor before the mast, to be kicked and cuffed about the world, and die in some fever hospital!' 'That is to be my fate,' thought I. 'I'll change my life at once. I'll never utter another oath, never drink another drop of liquor, and never gamble.' I have kept these three vows ever since."

Of course it is far easier to break senseless, useless, or vicious habits in the period of youth than in later years, when the grooves in the brain are deeper and the chains are heavier upon the will. But it is not impossible at any time. A man's reserves of strength are such that if he will summon them and direct them aright he can free himself from habits that have been hampering or cursing him for years. Too soon we become victims of the illusion that habits of long standing must continue to fetter a man until the end, that once a failure always a failure, that Fate has condemned him to a life of tyranny under a despot he would be glad to overthrow but cannot.

An elephant is usually tethered by a heavy chain wound around one of his hind legs and secured to a post or stake. After years of such bondage he settles down to the conviction that he cannot get free. When this idea is firmly fixed in the mind of the great beast

his keeper can tie him with a wisp of straw in place of the chain. He still stands there under the impression that he cannot break loose, while in reality he could end his bondage in a moment. There are multitudes of men who are bound by habits which they believe to be unbreakable and they have lost all hope and given up all effort to be free. Their case is not really as bad as they imagine. Experience teaches beyond a doubt that men may liberate themselves, that they can make a new start in life, that many of the mistakes of the past can be retrieved.

Two or three rules must be followed in breaking up foolish or harmful habits. In the first place, there must be a great incentive. This chapter began with a review of the opportunities and possibilities that are open to men who wish to achieve. It will be well to read them until they fire the imagination and awaken in the heart and mind a vast ambition. Become familiar also with the history of men who have won success in their various callings. Listen to the voice of Fame praising the victor for his wisdom, or power, or goodness; picture as vividly as possible the inestimable rewards and prizes won by well-directed effort; think of the thrilling pleasure of finding yourself rising above the low level of mediocrity and taking your place in the ranks of the conspicuous successes. Dream, if you like, until the dream awakens every possible desire within you and stirs to life the dormant faculties and latent powers of your nature. Believe that you—just as much as any one

else—that you were born for great achievements. You will then hate and loathe the habits that hamper you, and, with a mighty effort, you will launch your will against them and win your liberty.

But even that will be insufficient. You must immediately put a good HABIT in the place of the one you have cast off, or it will come back and bind you again with stronger cables. Find something that is well worth the doing and then do it with all your might. Do it now. A delay of a day may be fatal. Let it occupy all your spare time and your spare strength, so that you will have nothing left upon which the old tendency can fasten. The evening hours that have hitherto been spent unprofitably must be filled with an occupation that will carry you forward toward the goal of the new ambition. In an incredibly short time you will find the old HABIT entirely supplanted by the new, while the gains of the changed program will be already accruing to you.

Never think you are strong enough to flirt with the old temptation. Like Delilah, it will betray you to your enemy. Seek companions among those who are successfully following the path in which you have elected to travel, men who are nerved by the same lofty ideals and impelled by similar glowing hopes. Choose such an environment as will encourage and strengthen the virtues and habits you are trying to cultivate. The people or the places that weaken your resolution or deflect you from your purpose, shun as you would shun a pestilence.

And remember the Installation prayer of the Fraternity, wherein the Creator was invoked to teach you the nobility of true and upright living, the value of wise and inspiring companionships, the necessity of true and diligent habits, and to give you the willingness and ability to use aright the powers and faculties with which you are endowed. If we believe in a Creator at all, we believe also, as a sequence, that He must be sufficiently interested in our endeavors to aid us in achieving the purpose for which we were created and which we are fitted to accomplish, and it will be wise for us to seek His help and guidance.

In conclusion, let us neglect no aid or accessory that may be of assistance in cultivating such habits as will inevitably build up the kind of character necessary to a worthy and successful life.

Industry



Industry



Industry: Useful or Productive

INDUSTRY is the habit of performing a useful or productive task, whether mental or manual. Definition is quite important when speaking of INDUSTRY, because a wrong idea of the exact meaning of the word may result in a ruined life. Merely to be occupied in doing something may be very different from being industrious. A man can be lazy in such a manner that others think him to be industrious: he may be fussy, may move about with an air of great activity, may use a vast amount of energy, and yet accomplish nothing of value to himself or to the world. In its real sense, INDUSTRY implies that our time and strength and thought are being spent in a way that is useful. It differs from play or recreation in having for its object something more than personal pleasure. For instance, one may fly a kite just for his own amusement and use both his mental and physical powers in the occupation, yet, though he work at it from morning until night, it cannot be called INDUSTRY; but Benjamin Franklin spent many hours flying a kite in order to demonstrate that lightning is electricity, and so added something to the progress of the world. He undoubtedly received pleasure from the occupation; but it was more than an amusement because it had a definite purpose

and was a means to an end. It is possible to labor very hard with the body and leave the brain almost unused; it is also possible to work diligently with the mind without moving a muscle. The best and most productive forms of INDUSTRY are those in which the brain and the body are joined in the effort. A definite scale can sometimes be worked out to show the increased value of physical effort when the mind lends its aid. A favorite illustration is as follows: "A blacksmith makes five dollars' worth of iron into horseshoes, and gets ten dollars for them. A machinist makes the same iron into needles and gets sixty-eight hundred dollars. A watchmaker takes it and makes it into mainsprings, and gets two hundred thousand dollars; or into hairsprings, and gets two million dollars, sixty times the value of the same weight of gold."

Industry:
A Habit

The habit of INDUSTRY implies continuous work—steady, persistent effort. To engage in a task for a limited time, however hard one may labor at it, only to pass again into a state of voluntary laziness, can never constitute an industrious life. Fitful, intermittent, and occasional work never enabled a man to accomplish any worthy end. It was said of the Duke of Wellington that he did his duty as naturally as a horse eats hay. INDUSTRY means that a man works as naturally as a child plays, that it has become the normal condition of his living, the first

law of life to him. Ruskin says: "If you want knowledge you must toil for it; if food you must toil for it; and if pleasure you must toil for it; toil is the law."

**Industry: The
Natural Expression
of Power**

Nature makes few mistakes. Man was made for work. Every faculty, every sense, every nerve, and every muscle is planned for a definite purpose and fitted for a specific use. The physical system is a set of skilful tools, and the will is the workman who takes them up and uses them. The eyes are for observation, the brain for thought, the nerves are the carriers of messages from one part of the body to the other, the muscles are the engines of physical force, the hands and feet are the machines by which the larger part of the work is done. INDUSTRY is the steady running of this entire plant. Take any well-known piece of work—for example, that of James Watt. Watt observed the power of steam in lifting the lid of a teakettle. His brain immediately began a series of comparisons and deductions; it was a problem in rule of three: if the steam from a quart of water will lift a three-ounce obstacle, how much will the steam from a hundred gallons lift? Then followed the question of how to generate and direct such a large amount of force. His nerves and muscles began their task—the nerves carrying messages from the brain to the muscles and back again, and boilers, condensers, pistons, valves, wheels, were the result. Every tool

that he possessed was put to use during many months and years; that is, he did what he was created to do, he simply fulfilled the intention of Nature. Sir Walter Scott wrote to his son at school expressing this same law: "I cannot too much impress upon your mind that labor is the condition which God has imposed on us in every station in life; there is nothing worth having that can be had without it." James Russell Lowell once wrote, "No man is born into the world whose work is not born with him; there is always work, and tools to work withal, for those who will." And Gladstone states that "The laborer has his legitimate, his necessary, his honorable and honored place in God's creation; but in all God's creation there is no place appointed for the idler." So we may conclude that INDUSTRY is the primary law of life; to live as Nature intended man to live he must work.

Idleness is

Wastefulness

Nature is very exacting. Our powers are given to us for use; if for any reason they remain unused they are taken from us. Non-use is misuse, misuse is abuse; and by a law which knows no exception men suffer for such folly. Even at the advanced age of eighty-four Gladstone worked and studied ten hours a day in order to hold his own; Paganini, the famous musician, when at the height of his fame, practiced eight hours each day, for, he said, "without it my skill will pass from me."

Life's great opportunities come suddenly. When they arrive their demand is urgent and immediate; they allow no time for preparation. Recently a man was offered a very lucrative and honorable position. It was assumed that he was ready to fill it. He asked the Directors if they could give him six months in which to prepare for the larger sphere; this was impossible, and another filled the place. In speaking of it later the disappointed man admitted that it was his own fault: he had failed to gather a knowledge of just one branch of the work required in the new position. "If," he said, "I had used the time I have spent in attending the theater and reading novels during the past two years, I would have been ready."

When the foreman of a shop is promoted to a superintendency or to partnership, the firm cannot wait while a man prepares for the vacancy; if there is a man in the works whose ability and knowledge are ahead of the rest, who has applied himself to placing his practical skill upon a scientific basis, who has developed his powers of observation and application by careful study, that man will receive the promotion.

Employees of any rank or grade who do only just enough work to hold their present positions, never reach higher ones, and in a few years usually sink still lower. Each generation is a little better educated than the one preceding it, younger men come forward who are more alert and vigorous, and by the time a worker is fifty he finds himself out of date, unless he has studied and labored industriously to

master his work in every detail, theoretical as well as practical. Toward middle life the brain becomes set and muscles lose their elasticity if they are not kept supple by studious exercise. The vast majority of failures in any department of labor or commerce occur between the ages of forty-five and sixty, not because the man is unwilling to work at that time, but because, through the non-use of some of his faculties, or the partial use of most of his powers, he has lost the art of adaptation. As a consequence he loses what should be the large harvest of his later years because he cannot reap it.

**Industry: The
Foundation of a
Useful, Happy, and
Honorable Life**

Most of the men who have been conspicuously successful in life have paid their tribute to the power of INDUSTRY in making their achievements possible. It brought them happiness and honor. Bismarck said: "There is one word which expresses this rule, this gospel—work; without work life is empty, useless, and unhappy. No man can be happy who does not work. To the youth on the threshold of life, I have not one word, but three words of advice to offer—work, WORK, WORK!" Gladstone said: "I have found my greatest happiness in labor. I early formed the habit of INDUSTRY, and it has been its own reward." Robert E. Lee said: "People have got to work. It is creditable for them to do so; their bodies and their minds are

benefited by it, and those who can and will work will be benefited by it." Theodore Roosevelt writes: "The happiest man is he who has toiled hard and successfully in his life work. The work may be done in a thousand different ways—with the brains or the hands, in the study, the field, or the workshop; if it is honest work, honestly done, and well worth the doing, that is all we have a right to ask."

"Great men were all great workers in their time,
Steadfast in purpose, to their calling true;
Keeping with single eye the end in view;
Giving their youthful days and manhood's prime
To ceaseless toil; matin and midnight chime
Often upon their willing labors grew.
In suffering schooled, their souls endurance knew,
And over difficulties rose sublime."

If you will read the lives of the famous men of the world—the statesmen, scholars, inventors, manufacturers, scientists, and writers—you will find them to be one long record of how difficulties and obstacles were overcome by continuous INDUSTRY; in fact, it will be impossible to find a history of any worthy life which is not the story of persevering INDUSTRY. What pleasure can compare with that of being the master of one's craft—its secrets solved, its technical details perfectly mastered, its relationship to other industries thoroughly understood?

**Labor is Essential
to Self-Develop-
ment**

Our attention is not usually directed toward men until they have already won success; in consequence, we are very liable to forget how hard they had to work to become what they are.

For instance, it took Johns Hopkins seven years of most drudging toil to make his first \$800; Andrew Carnegie spent the first eighteen years of his working life in accumulating \$1,000; Cecil Rhodes got hold of his first mine only after fifteen years of patient and careful work; Watt labored for thirty years to bring his condensing engine to perfection; Stephenson gave twenty-five years to making his locomotive practical; Lyman J. Gage slaved and drudged the larger part of his life, as errand boy, postal clerk, day laborer, night watchman, bookkeeper, and paying teller, before being fitted for a post of national trust and honor; after laboring his hardest for ten years Peter Cooper was earning only \$9 per week. But the long and toilsome years are not to be estimated by the immediate financial returns; they form the period of preparation, during which the qualities that all men admire are being developed. It is hard training, but hard training is always a wise investment of time. When the critical hour arrives the man who has been schooled and disciplined aright is always sure to win. The man who shirks or slurs his work because it does not pay large wages will end by having neither work nor wages, because he will have become a poor workman. Idleness ends in inefficiency. The very worst

result of the habit of carelessness or indifference is not felt by the employer but by the worker himself; for by not doing everything to the best of his ability he soon loses the ability to do anything well.

**Industry: The
Secret of Self-
Respect**

“Thank God every morning when you get up,” wrote Charles Kingsley, writer, scientist, and historian, “that you have something to do that day which must be done, whether you like it or not. Being forced to work, and forced to do your best, will breed in you temperance, self-control, diligence, strength of will, content, and a hundred other virtues, which the idle never know.”

Very often we hear men say that the world owes them a living. Such a statement is usually an excuse for idleness. When the state of the case is examined carefully it will be found that we are in debt to the world and not the world to us. We are born into a civilization which was built up at infinite cost. Nearly every convenience and advantage we possess was won at the price of blood. It took three thousand battles to win the liberties and rights which are ours today. Thousands of our ancestors starved and languished in dungeons, or perished in the forests or in the sea, to erect the institutions and to create the opportunities which we inherit without an effort. After all this toil and pain and sacrifice, for a man to refuse his share of labor is the basest kind of shirking.

To throw oneself upon the charity of a community, whether the man be poor or rich, is the unworthy act of idleness. The only difference between the weekly wage-earner and the man who inherits money is the difference of when the wage is paid; the lowly worker is paid after his piece of work is done, the one who inherits wealth is paid in a lump before he begins his task; it is doubly dishonorable for him to be lazy because he steals his wages and offers not the slightest return. No man can be idle and hold his self-respect. When the publishing house of Ballentyne & Co., Edinburgh, went bankrupt and plunged Sir Walter Scott into debt, he took up his pen and worked as scarcely any man ever worked before. When chided by his friends for slaving so desperately, he said he could not save his self-respect if he spent an idle hour while his creditors remained unpaid. So, in spite of terrible pain, with old age and weakness creeping upon him, he rose every morning at five o'clock and wrote his wonderful romances and histories, until the whole world revered him even more as a man than it admired him as a writer.

In 1832, when twenty-three years of age, Abraham Lincoln fell badly into debt as the result of a mercantile adventure which ended disastrously. The terrible responsibility darkened his life. He spent the next seventeen years in paying his creditors. "I had no way of speculating," he said to a friend, "and could not earn money except by labor, and to earn by labor

eleven hundred dollars beside my living seemed the work of a life-time." As late as 1849, when a member of Congress, he was still sending home money saved from his salary to be applied on those obligations. But by his unflagging INDUSTRY and determination he held not only his self-respect, but he won the respect of every one else. It was the best investment of time and strength that Lincoln ever made, for it was the persistent toil to keep his self-respect that gave him the nickname of "Honest Abe." One of his biographers has said that that name "proved of greater service to himself and his country than if he had gained the wealth of Cræsus." It made him the most-honored and best-loved President of the United States.

**Slothfulness: A
Disease That is
Always Fatal
to Success**

Slothfulness does not necessarily mean absolute idleness—hours, days, or weeks, in which a man has no occupation whatever; it implies a sluggishness, a don't-care spirit, a disposition to evade the strenuous, a tendency to do one's work without enthusiasm, as if it did not matter whether it were done or not. Slothfulness is a sure forerunner of failure. John Wanamaker, during the first eight years of his commercial career, did not miss one single day from business, was never late, and never allowed himself to be discouraged; this, as much as anything else, contributed to his success. In the cases of men who have risen from

lowly positions as employes the story admits of hardly a variation. The youth applies himself to his task with such diligence and ardor that he does his work without conscious effort; his superior—foreman or superintendent—notices this feature and when a vacancy occurs which implies more difficult work, and, as a result, higher wages, the efficiency warrants a trial; the same INDUSTRY soon conquers the new situation and another promotion follows; until at last the industrious man finds himself in the highest position possible to attain in that enterprise. But by then, the habit of INDUSTRY is acquired and cannot be shaken off; so new and more difficult plans are put into operation—branch is added to branch, plant to plant, and suddenly the world recognizes the ability and calls the man famous. Such is the history of Andrew Carnegie and many another man. But many a workman who started with Carnegie is still drawing his weekly dole in the pay envelope, or is being supported by kind relatives or a benevolent Commonwealth. If the difference is sought for diligently, it will be found in the fact that the unsuccessful worker never put enough INDUSTRY into his immediate task to qualify himself for a larger opportunity. It should also be stated here that the man who is destined to rise does not count his working hours by the signal of the whistle or siren.

In this age, when necessity has involved the means of production in a maze of intricate machinery, based upon scientific principles, it is imperative

that a man should know the "Why" as well as the "How." If a man knows only the "How," he is simply a part of the machine which he helps to work. If he knows the "Why," he is a mind towering above the machine and regarding it as a servant, an unconscious slave, of which he is the master. So it is imperative that they who wish to succeed should pass beyond mere manual proficiency and grasp the laws which govern their mechanical occupations. This involves study. After the actual wage work is finished the wise man will take up the mind work; he will devote himself to books and charts and problems; he will set aside a certain amount of time in the morning before the whistle blows, or at night after the siren ceases, to an acquisition of such knowledge as will make him invaluable and supreme in his own department, or will fit him to pass into another and a larger sphere. In no other way can a worker hope to advance. It is folly to say that this cannot be done. It can be done because it has been done, not once but thousands of times. The program that he lays down for himself may be full of difficulties, but as Marden says, "No man can rise to anything very great who allows himself to be tripped or thwarted by impediments. His achievements will be in proportion to his ability to rise triumphantly over the stumbling blocks which trip others." There is no broad and smooth and level road to success; if there were we should never know what failure means and success would hardly be worth the winning. The wise

Joseph de Maistre wrote to one who inquired about certain easy ways of learning foreign languages: "They are pure illusions. There are no easy methods of learning difficult things: the only method is, to close your door—and work." This may serve as a parable: "Close your door—and work!" Shut out all amusements that rob you of your strength and admit only such as are real recreations—which give vigor to the mind and refreshment to the body; shut out all companions who lead you into waste of time, or money, or ability, and admit only those who stimulate your will and elevate your mind; shut out all habits that may prejudice you in the opinion of others, or weaken your resolution, or decrease your efficiency, and admit only such as will win general confidence and qualify you to seize future opportunities. "Close your door—and work."

"And Work!" It is still necessary to remove an ancient misconception. For centuries, in certain lands, the word "work" has been limited to muscular and manual occupations. But today we realize that the development of the mind is also work. It means the giving out of energy, and the latest science classes it as a physical effort. In order to acquire knowledge a man must make an effort which is as tiring to the system as any muscular occupation. The only way in which we feel a physical exertion is through the nerves, and the only way we feel a mental effort is likewise through the nerves. So all study is work; all knowledge is gained by work. The man who wishes to

achieve anything beyond the low level of mere subsistence must dedicate a certain portion of his time to intellectual INDUSTRY and thus make his mind the ally and comrade and director of his muscle. If anything may be termed the main road to success, it is this.

Ambition, Desires,
Ideals—Futile
Without Industry

Peter the Great, Czar of Russia, had great dreams of what he might do for his people; to bring them to pass he went abroad and worked as a common laborer—wielding the instruments of daily toil, bearing the drudgery without a murmur, and accepting the wages of an unskilled workman. The whole world honors the memory of Czar Peter. He knew that even to Royalty there was no easy way of making dreams into substantial realities—no way except that of honest and patient INDUSTRY. When John D. Rockefeller was a boy he was working out on a farm in New York State and dreaming of his future. One day he said to a farm boy about his own age: “I would like to own all the land in this valley, as far as I can see. I sometimes dream of wealth and power. Do you think we shall ever be worth one hundred thousand dollars, you and I? I hope to—some day.” Soon afterwards he moved to Cleveland and found a position as office boy. “I had plenty of ambition then, and saw that, if I was to accomplish much, I would have to work very, very hard, indeed.” And he did. Every spare hour was given to study;

every branch of business that he touched he mastered, down to the least detail, and out of small wages, by the time he was twenty-five years old, he had saved his first ten thousand dollars. Peter Cooper, long before he was wealthy or famous, cherished dreams of success, and of what he would do for the world. A combination of ill health and poverty allowed him only one year of school with which to begin. At eight years of age Peter was pulling hair from rabbit skins to make hat pulp. He learned how to make shoes for the family by tearing an old boot to pieces. At seventeen he reached New York, with ten dollars in his pocket—the total savings of nine years of labor. For five years he worked as an apprentice in a carriage factory at two dollars a month and board. During all of this time he studied at night, without assistance or encouragement. When his apprenticeship was finished he took a place in a mill at nine dollars a week, and, immediately applying his studies to a practical end, he invented a shearing machine which netted him five hundred dollars. He continued to study and to save, and soon bought a bankrupt glue factory, which he put on a paying basis within a year by means of machinery which he himself devised. For thirty years he carried on the business single-handed. He rose at daylight, lit the fires in office and factory, kept his eye on every detail of the process, but, what was more important, he continued his mechanical and scientific studies until he was equal to any emergency. He constructed rolling mills on

plans of his own and made a fortune. When the directors of the B. & O. Railroad gave up the construction of the road after building thirteen miles, because it necessitated curves and grades which no engine could take, Cooper stepped in, completed the work, built a locomotive that would take the sharpest curve at high speed and keep the track, and was at once recognized as one of the most practical and successful men of the world. And, after years of almost unparalleled INDUSTRY, he was able to realize his dreams and ambitions by erecting and endowing the great Cooper Institute in New York City, by which thousands of men have been equipped for success. Truly, ambition is a mockery, desire is a delusion, ideals are a burden, unless supported by INDUSTRY.

**Prosperity and
Progress the Legit-
imate Fruit of
Industry**

Thalberg, the famous musician, said that he never played a selection in public until he had rehearsed it fifteen hundred times. Industry is necessary to efficiency.

Great results never come by accident, they are accounted for by adequate causes. Reynolds, the master-artist, said: "If you have great talents, INDUSTRY will improve them; if you have but moderate talents, INDUSTRY will supply their deficiency. Nothing is denied to well-directed labor; nothing is to be obtained without it." No man's powers are so great that they cannot be made greater.

If you have a natural aptitude for some particular work, INDUSTRY will make you an acknowledged expert in that department.

The very worst folly is to believe that because you can do a thing easily you will be sure to succeed in that direction. In a few years you will discover that men who are not naturally so clever as yourself are passing you in the race. The explanation will be found in the fact that you have never trained and developed the talents with which you started, and, in consequence, they have remained stationary. Many a man who does a certain kind of work simply because there is a demand for it, although he does not possess conspicuous native ability, becomes so proficient by study and industrious experiment that he outdistances his rivals and wins the rewards that might have gone to others. One talent, when backed by INDUSTRY, will accomplish more than five talents fettered with indolence.

Most of the accomplishments which are attributed to genius are simply the result of hard work. When another has succeeded it is very easy to excuse our own failure by saying that the other man had genius. When a friend was talking about a certain person being a miracle of genius, Sydney Smith broke in upon the speaker, saying, "Yes, he is a miracle of genius because he is a miracle of labor; because, instead of trusting to the resources of his own single mind, he has ransacked a thousand minds; because he makes use of the accumulated wisdom of ages, and takes

as his departure the very last line and boundary to which science has advanced; because it has always been the object of his life to assist every intellectual gift of Nature, however munificent and however splendid, with every resource that art could suggest and every attention that diligence could bestow." It is very significant, and it should settle the question for us, that nearly every one who has been called a genius has claimed that hard work was the secret of his success. Lord Macaulay sometimes wrote for twelve hours at a stretch. "I have made myself what I am," he said, "by intense labor." When Turner, the artist, was asked the secret of his marvelous success, he replied that he "had no secret but hard work." John Ruskin once said, "When I hear a young man spoken of as giving promise of high genius, the first question I ask about him is, always, 'Does he work?'" Byron said, "The only genius that I know anything of is to work sixteen hours a day." Dickens, the novelist, made a similar confession: "My imagination would never have served me as it has but for the habit of commonplace, humble, patient, daily toiling." Speaking of himself, Alexander Hamilton said: "People sometimes attribute my success to genius. All the genius I know anything about is hard work." Daniel Webster, in an address delivered on his seventieth birthday, said: "Work made me what I am. I never ate a bit of idle bread in my life." The man who made the most far-reaching scientific discovery of all time, Isaac

Newton, left this record: "If I have done the public any service it is due to nothing but industry and patient thought."

Whenever the name of John Ericcson is mentioned men invariably exclaim, "Now, there was a genius." His inventions were so numerous, and so revolutionary in their nature, that it is no wonder superhuman powers were attributed to him. The present era of naval construction began when Ericcson's turreted iron-clad "Monitor" vanquished the "Merrimac" in Hampton Roads. A few sentences from the "Life of Ericcson" will reveal the secret of his 'genius': "He was at the shipyard before any of the workmen, and was the last to leave. In the construction of so novel a craft as the 'Monitor' difficulties of a puzzling nature came up every day. If Ericcson could not solve them on the spot, he studied the matter in the quiet of the night, and was ready with his drawings in the morning." Writing of his normal life, after the urgency of the Civil War was over, the same biographer says: "He was utterly wrapt up in his work, his days knew scarcely any variation. His time was divided according to rule. For thirty years he was called at seven o'clock in the morning, and took a bath of very cold water, ice being added to it in summer. After some gymnastic exercises came breakfast, always of eggs, tea, and brown bread. His second and last meal of the day, dinner, never varied from chops or steak, some vegetables, and tea and brown bread again. During the daytime

he was accustomed to work at his desk or drawing table for about ten hours. After dinner he resumed work until ten, when he started out for a walk of an hour or more, which always ended his day. The last desk work accomplished every day was to make a record in his diary, always exactly one page long. This diary comprises more than fourteen thousand pages, thus covering a period of forty years, during which he omitted but twenty days in 1856, when he had a finger crushed by machinery." If any life is an example of the triumphant power of methodical, persistent INDUSTRY, it is surely that of John Ericcson.

Every law of Nature discovered by man, every force applied to human progress, every principle of mechanics worked out for quickening or cheapening production, every invention that has brought the resources of the universe within our reach, every added step in the facilities of transportation, every book that has increased and broadened our knowledge, every work of art that has given us pleasure, stands as a monument of INDUSTRY.

While some believe that a mysterious something called "genius" is necessary to success, others hold that "luck" is the principal element. If you question men as to what they mean by luck they will invariably say that the envied man of achievement had some chance of an exceptional kind. Perhaps he had. But there is probably no one who does not have some chances of an extraordinary kind. The difference

is not in the chances but in the fact that some men seize them and others do not. A chance is simply an opportunity, and when it comes, only INDUSTRY can make the most of it. Ever since the world began there was the chance to make a steam engine, a locomotive, a cotton-gin, a telephone, a sewing-machine, a reaper, a dynamo, a phonograph. The energies of Nature and the principles of mechanics embodied in these inventions are not of recent origin: they have been in the world since the beginning of time, but the uncounted millions of the past never thought of them, never utilized them. Watt, Stephenson, Whitney, Bell, Howe, McCormick, and Edison gave long and tedious years to study and experiment, until their INDUSTRY conquered every difficulty, and achieved success. It was not luck but labor, not inspiration but INDUSTRY.

Neither can it be said that the well-known men of achievement were particularly favored by circumstances. Stephenson could not read or write at the age of eighteen; Hunter, the celebrated anatomist, reached manhood before his education began; Faraday and Davy were handicapped from the start by their neglected youth; Edison went to school for two months; Carnegie had practically no schooling at all. In 1902, one of the editors of the "Library of Inspiration and Achievement" gave a series of questions and answers regarding the men whom the world was then honoring, to show the lowly occupations from which they had risen:

“What was the President of the New York Central Railroad?

A freight clerk.

What was the President of the great Southern Pacific system?

A clerk.

What was the President of the United States Steel Company?

A day laborer.

What was the President of the Pennsylvania Railroad?

A surveyor.

What was the President of the Metropolitan Street Railway Company, of New York City?

A flagman.

What was the President of the Western Union Telegraph Company?

A telegraph operator.

What was the President of the New York Life Insurance Company?

A fifteen-dollar-per-week clerk.

What was the President of the largest bank in America today?

A messenger boy.

What was the head of the largest publishing house in America?

A newsboy.”

These are only a few of the innumerable instances which might be adduced. Almost every great commercial enterprise can tell a story equally romantic.

As the years pass the list can be brought up to date without weakening the argument. And if each of these successful men could be questioned as to the qualities which won such achievements, the answer would be, "The HABITS of INDUSTRY, CONCENTRATION, and SELF-RELIANCE; but first and foremost—INDUSTRY."

**Time: Cannot be
Taken From Us** There must always be sixty minutes in every hour and twenty-four hours in every day. No one can rob us of our time. Men may steal our money, defraud us of our property, take away our reputation—but there will still be sixty minutes in every hour and twenty-four hours in every day belonging to us. Time is of the utmost importance, and when we have discovered its value we have staked out our biggest claim in life. The easiest way to spoil tomorrow is to waste today. Killing time is the surest way of committing business suicide. Marconi, the most daring and persistent of inventors, says: "I cannot remain idle. Ever since I was a child I have had this feeling. Time means everything. If you cannot do a thing here, do it elsewhere. In an hour gained there may be accomplished the one thing you have been striving for."

It is true beyond a question that the majority of men spend more time in sleeping than is necessary. No definite specified allowance can be laid down

as a rule because men differ in the amount of rest necessary to recuperate their exhausted nerves. But it has been demonstrated beyond a doubt that one can cultivate the habit of doing a vast amount of work with a very few hours in bed. Ericcson slept only four hours a night for a hundred days while building the "Monitor." John Hunter, the celebrated scientist, would not permit himself more than four hours' sleep in the twenty-four. Charles Broadway Rouss always rose exactly at 4 A. M. and worked steadily for fourteen hours each day. Peter Cooper claimed that Nature intended man to get up with the sun and followed that rule throughout his life. Hume, the historian, worked thirteen hours a day at his desk, besides other occupations. Such instances could easily be multiplied. It is safe to assert that there are thousands of men who could qualify themselves for success by devoting just one of their sleeping hours to study, and their general health would not be affected in any way by the sacrifice.

**Industry is the
Wise Economy of
Time**

One of the causes of wasted time is the impression that the spare moments and odd hours are not of any value, that they are too brief for any purpose. For instance, we often hear it said, "I've had no time for book-learning; I've had to work for a living all my life." If such

an one could only realize what vast results may be obtained by using the unoccupied minutes, such an excuse for ignorance would never again be offered. "I learned grammar when I was a private soldier," writes William Cobbett. "The edge of my berth, or that of the guard-bed, was my seat to study in; my knapsack was my bookcase; a bit of board lying on my lap was my writing table, and the task did not demand anything like a year of my life. I had no money to purchase candle or oil; in winter, it was rarely that I could get any evening light but that of the fire, and only my turn even at that. I had no moment of time that I could call my own; and I had to read and write amidst the talking, laughing, singing, whistling, and bawling of at least half a score of the most thoughtless of men." Yet in spite of the late start and the difficulties of the beginning, Cobbett lived to write a standard book on Grammar and was recognized as a leading scholar for several decades. He was famous also for many other books of education and research. Orison Swett Marden gives us the life of Dr. Rittenhouse, the famous astronomer, in a perfect form—brief, comprehensive, inspiring: "Dr. Rittenhouse was a joiner. His thirst for knowledge was intense. He passed his nights in study and committed to memory the few books he could lay his hands on. He covered the fences, barn doors, and loose shingles with diagrams. He mended the clocks of the poor, and repaired the rude machinery of the town. Alone and unaided he became an

accurate surveyor, and by tireless study placed himself among the great mathematicians of the world." Benjamin Franklin snatched minutes from his meal times for study and in the course of a month saved many hours. Henry Kirke White mastered the Greek language and literature while walking to and from a lawyer's office. Science owes much to Cuvier for the result of studies pursued while riding in a carriage from place to place on other duties. Hugh Miller, the stonemason of Cromarty, became a world-famous geologist and a versatile scholar by devoting his evenings to books after working all day in a stone quarry. Humphrey Davy, who became not only a great scientist but also, by means of his miner's safety lamp, a benefactor of humanity, prepared himself by utilizing his spare minutes studying and experimenting in an attic.

One of the most remarkable stories of self-education in spite of disheartening circumstances is that of Samuel Lee of England (born in 1783, died in 1852), as told by William Mathews in his inspiring book, "Conquering Success." Sent to a charity school at Lagnor, near Shrewsbury, the lad made such snail-like progress that his master pronounced him one of the dumbest boys that had ever passed under his hand. Apprenticed to a carpenter, he worked at the trade until he was twenty-one, and to occupy his vacant hours took to reading. Puzzled by some Latin words which he encountered, and hearing the Latin language read in a Catholic chapel where he

was working, he resolved, at the age of seventeen, to learn that tongue. Buying a second-hand Latin grammar, he rose early and studied late till he had learned it by heart. He next bought an old Latin dictionary and Beza's Latin Testament, and began translating. In his eighteenth year he read, unaided, the Latin Bible, Florus, some of Cicero's Orations, Cæsar's Commentaries, Justin, Sallust, Virgil, Horace's Odes, and Ovid's Epistles. But, asks the reader, as he had to live on his wages (then six shillings a week; later, eight shillings), how could he buy all these books? "I never had all at once," said the poor student, "but generally read one book, and sold it, the price of which, with a little added, enabled me to buy another; and this, being read, was sold to procure the next." Ending his apprenticeship at carpentry, he resolved to learn Greek, and buying a Greek Grammar, a Testament, and a Lexicon, set himself to master that difficult tongue. In a short time he read and translated all of the important Greek classics. One day, while repairing some benches in a synagogue, he saw a Hebrew Bible, and felt a desire to read it. An inflammation of the eyes, and every possible discouragement from those around him, now threatened to hinder his progress; but study had become his greatest happiness and he returned to it daily for the enjoyment it yielded and as a rest from manual toil. Buying Bythmer's Hebrew Grammar, with his "Lyra Prophetica," and a Psalter, he read the latter, with Onkelos's Targum, some of the

Syriac Testament, and some of the Samaritan Pentateuch.

He was now nearly twenty-five years old, and had a stock of tools worth twenty-five pounds. Sent to Worcester to repair a house, he began to reflect that his studies, however fascinating, were practically useless to one in his situation, and marrying, sold his books and took to his trade of carpentry as his only means of self-support. A carpenter he might have remained to the end of his days, but for a fire in the house he was repairing, which destroyed the chest of tools with which he was earning a living. Destitution now stared him in the face. He was cast upon the world, as he said, "without a friend, a shilling, or any means of subsistence." But this very accident, which seemed to him to bode nothing but ruin, was ultimately the very means of lifting him out of obscurity and conducting him to the high position which his arduous labors had fitted him to fill. Too poor to buy new tools, he thought, while devising means to keep the wolf from the door, of opening a primary school and teaching children their letters and some of the most elementary branches of education; but with all his mastery of languages, he was defective in the humblest branches of knowledge, and therefore set promptly and resolutely to work to learn arithmetic and penmanship sufficient to teach them to little children.

Gradually, the extraordinary attainments and simple, sterling character of Lee won him friends,

and the story of "the learned carpenter" was told far and wide. Presently the news of his disaster reached the ears of one who was able and ready to help him. Lee was now supplied with the necessary books, and he attacked and mastered in succession the Arabic, Persian, and Hindoostanee tongues, continuing to prosecute his studies while serving as a private in the local militia. At last he found a teacher's position in a school at Shrewsbury and also an opportunity to teach in private; and finally, at the age of thirty, he entered the University of Cambridge, from which he graduated with mathematical honors. The next year he was elected Professor of Arabic in the University. He became the complete master of eighteen languages, and died, honored by the whole world as one of its greatest scholars.

Such an achievement should be an inspiration to every man. It is a practical rebuke to idleness, hopelessness, and lack of ambition. It would not be wise, of course, for every man to take up the study of foreign languages. But what Samuel Lee did in the classics any other man may do in the arts and sciences—in electricity, chemistry, engineering, or the branches of learning which make manufacture successful. That is, any other man can do it if he will study as persistently, use his time as wisely, and exercise his will as courageously as did Lee. Obstacles may be surmounted, difficulties can be overcome, by hard work. The high and honorable places of life are the rewards of INDUSTRY. No level is too

low as a starting point. And with the facilities of education so easy to obtain today, every man who does not profit by them must be regarded as unworthy of the privileges and unfit for the prizes which this age affords.

Concentration



Concentration



The value of a virtue or quality increases with the passage of time. Long ago, when every man worked for himself in a thinly populated world, in which the resources of nature had not been gathered by millions of eager hands, it was not necessary or wise for a man to concentrate his attention or powers. He could be his own mason, carpenter, and smith; he must draw his own plans, fashion what tools he needed, provide meat for the family by his personal skill, gather his supply of fruit or vegetables, fight his battles single-handed, doctor his own wounds or ills, carry what messages he wished to transmit to friend or foe—in short, he must be able and ready to do everything except bury himself, and in some primitive societies a man even made his own coffin. The vast increase of population, especially in the lands where men mass in cities, has entirely changed the program of life. It seems at first sight like a contradiction but it is undoubtedly true that the man who has the best chance of success is the one who can do the least number of things; that is, provided he can do those things more efficiently than other men. Ralph Waldo Emerson wrote, "If a man can write a better book, preach a better sermon, or make a better mousetrap than his neighbor, though he build his house in the woods, the world will make a beaten

track to his door." The same wise philosopher also said, "The one prudence in life is CONCENTRATION, the one evil is dissipation."

What a tragedy it is to fail, especially in a world where success is comparatively easy if sought along the right lines. One of England's earliest kings has carried the secret of his failure across all the centuries in his name, "Ethelred, the Unready." Readiness today implies the skill to do the work that needs to be done—a concentrated brain and a trained hand. If Fortune should ever write an advertisement there could be little doubt about the wording: "Wanted: a man who can do anything better than any one else!" Everything yields to well-directed skill; to get skill you must use will. Skill is the result of continuous application in one direction, until the mind or the muscles, or both, form the habit of working without conscious effort. For such men there is an opening in every field of manufacture, science, and finance, while there is only a precarious chance for the one who has dabbled and dipped into a score of things and has failed to make himself the master of any department. A little while ago a man of about forty years of age strolled into an office and asked for employment. "What can you do?" inquired the junior partner. "Oh, anything!" was the reply. "Sorry," came the answer, "but we haven't any such place vacant. We can do with an extra shipping clerk and an expert stenographer; we want immediately four machinists, one toolmaker, one

patternmaker, two forgers, and three molders; but we haven't a job big enough for a man who can do anything."

**Realize the Worth
of the Object You
Wish to Attain**

To excel in whatever one attempts should be the aim of every man who cherishes ambition. Mediocrity—the ability to do mental or manual work fairly well—neither merits nor wins any of the great prizes of life; in fact, it keeps the mind in a state of alarm because, without a moment's warning some one more skilful may pass us and snatch the reward, or even supplant and so deprive us of the meager wage of ordinary work. In looking back over the men pre-eminent in their own fields, we are forced to believe that each did the very best of which he was capable; it is scarcely possible to think of Phidias being a better sculptor than he was, or Julius Cæsar a more capable soldier, or Shakespeare a truer dramatist, or Isaac Newton a more careful scientist, or Washington a sublimer patriot, or Wagner a more accomplished musician, or A. T. Stewart a keener merchant. There are no crowns in the world for those who are content to do what necessity compels and who do it without ardor and conscious skill. The supreme joy of life is found in the sense of mastery—a feeling that comes when difficulties have been overcome, when it is possible to look back over the days of immaturity and doubtful experiment knowing that the position now attained

is unassailable—the result of persistent, concentrated effort. The field in which such a triumph is won may not be a highly distinguished one, not such an one as commands the admiring attention of our fellow men, but the sense of victory will be just as real and the rewards quite as precious. Probably the pride of personal attainment or accomplishment is the only pride that is not foolish. Why should a king be proud of a throne he did not win, or a nobleman of a title he has not merited, or the legatee of a fortune he did not create? But the man who has made nature give up her secrets, or has harnessed the forces of the universe to the car of human progress, or has increased the general wealth by mechanical and labor-saving devices, or has made himself indispensable to the welfare of his age or country, may well be proud of the results of his power. Such a goal is worthy of any effort, and happy indeed is the man who has set himself to reach it at any cost.

Our Senses, Faculties, and Powers Are Many and of Various Uses

One of the first things an ambitious man should do is to make a careful survey of his resources. He will then discover that he is equipped to do a great number of very different things. He is a chest of tools, admirably constructed and ready for use, by which he can engage in a score, or a hundred, dissimilar occupations. And behind these tools, ready

to direct them, is the brain. Each instrument is connected with the brain by a nerve, which acts like a telephone wire, carrying messages back and forth. The first instinct of life is to do something with the hands. The eyes see something that is possible; the nerves carry the message to the brain and the brain sends it on to the muscles controlling the hands; then if the will gives its permission the fingers set to work. But when the hands alone are engaged it is in the coarsest kind of labor—digging, for instance. After one day of experiment the mind can be freed from the occupation, for the man has learned to perform his task by the automatic use of the muscles; even the eyes can be released from service and the digging proceed in the dark. If one should use his hands to fashion and adjust material, he will require a longer use of the brain and the eyes will be needed all the time. As we rise in the scale of occupation, and the work becomes more complex, more of the powers are constantly engaged. When we reach perhaps the greatest work a man can do, every single sense, faculty, and power is concentrated and engaged to the utmost. Michael Angelo, in painting the Sistine Chapel in Rome, probably had his entire being focused under his will and bent to the accomplishment of the masterpiece. Balancing himself upon a platform, his hands wielding the brush, his eye tracing lines and valuing colors, his mind picturing forth the great conception, his heart flinging a wealth of sentiment into the production, his memory pouring out the

treasures which he had seen and heard in the past, his lips directing his assistants—never was there an example of such complete CONCENTRATION; and the result has stood the test of centuries and is the wonder and delight of the world today. Michael Angelo, when engaged upon his great creations, would often drop down in his working clothes and sleep upon the floor, to be ready again for work with the first light of morning. When reproached by friends for such solitary and unsocial habits, he would reply, “Art is a jealous mistress, and requires the whole man.”

**Gather the Various
Parts of Your
Nature Together**

It will be readily seen that a man's value to himself, or his worth to civilization, depends upon his ability to gather the various parts of his nature together and to hold them steadily upon one object for the accomplishment of a definite purpose. Knowing what these powers are, what is the use and relative value of each, estimating what one faculty can accomplish if working by itself and how much greater its possibilities are when combined with the rest, we appreciate the importance of CONCENTRATION. The physical parts of the body, if engaged without intellectual direction and inspiration, will consign the worker to a life of drudgery with the scantiest returns for his trouble; the engagement of the mind alone, however lofty its flight, unless the more practical

powers are likewise used, will end in the disappointments of the mere dreamer. Ruskin says: "It is only by labor that thought can be made healthy, and only by thought that labor can be made happy; and the two cannot be separated with impunity."

Undoubtedly the great difference between the successful man and the failure does not lie in the amount of work done by each but in the amount of intelligent work. One man puddles iron and when he has worked for hours the product is still iron; another man takes the same metal, adds brains to it, and though in its mineral form it is still iron, yet by virtue of the constructive and creative thought it has become a machine. The difference for instance, in the wages of the two men, represents the difference between manual labor alone and manual labor under mental direction. The quarryman cuts out blocks of marble by mere muscle; Saint-Gaudens takes one of those blocks, directs his hand by his brain under the guidance of his eye, and produces a piece of statuary that is worth its weight in gold. Henry Bessemer puzzled over the problem of how to make steel from iron in sufficient quantity to put to universal use. When small pieces of iron had to be carbonized in a charcoal fire under a draught of hand-bellows the cost of making steel was so high and the product so limited in amount that it could be used only for sword blades, cutlery, and watchsprings. It was worth three hundred dollars a ton and England controlled the world's market with 50,000 tons a year.

So Bessemer put his brain to work and made a thorough study of metallurgy. He mastered what was known of the science in a few months. Next he took a small iron-foundry in London and began to use his eyes and hands as well as his brain. In the course of eighteen months of tremendous work he formed the idea of making steel by using atmospheric oxygen. Attempt after attempt failed, process after process was useless, crucible after crucible was discarded; every penny that Bessemer could find was sunk in the numerous experiments; he himself was made ill by the tremendous work and anxiety; but at last, when every one was ridiculing his unproductive endeavors, success came. In six years of CONCENTRATION, by using all his faculties and powers, Bessemer changed the Age of Iron into the Age of Steel. In twenty years the output of steel rose to four million tons a year while the cost of production dropped to forty dollars a ton. Bessemer died in 1898, at the age of eighty-four, having won titles of honor from nearly all of the European Governments, besides vast wealth and the gratitude of mankind.

**A Man Using His
Entire Power is
Irresistible**

A man who concentrates every force of his nature in one direction meets every obstacle with an impact that nothing can withstand. Isaac Singer was an actor, but having caught a glimpse of Elias Howe's Sewing Machine, he

determined to make and market a similar device. In eleven days, working twenty-one hours out of each twenty-four, he succeeded in his task and immediately advertised, sent out agents, and began to take orders.

But by far the most notable example of CONCENTRATION is Thomas A. Edison. His whole life might be taken as an illustration, but a few characteristic incidents must suffice. When Edison was a newsboy on the Grand Trunk Railroad, he was consumed with a thirst for knowledge. Unfortunately there was no one to guide him and he was compelled to learn the proper use of his abilities by a series of mistakes. The run of his train ended at Detroit, where there was a well-stocked public library. He made up his mind that he would read every book in the building. He started with great enthusiasm and determination but after having studied all of the volumes on one shelf of fifteen feet in length, he came to the conclusion that his plan was a mistake. He was spreading his mind over all the universe and he would never get through the self-imposed task. Likewise, he was wasting strength and time upon some books that were out of date, and upon others that were foolish and which could be of no practical value to him, while many were too abstruse or advanced for a boy who had passed through no severe elementary training—Edison having enjoyed only two months of schooling. So he wisely decided to confine his studies to the natural sciences—a course which gave the bent to all

his subsequent work and which laid the foundation for his wonderful achievements.

When questioned by Orison Swett Marden as to what he considered the first requisite for success in his own field or in any other, Edison replied: "The ability to apply your physical and mental energies to one problem incessantly without growing weary." He has sometimes worked sixty consecutive hours upon one problem. When developing the automatic telegraph, Edison sat in the midst of a pile of chemical books five feet high when placed upon each other on the floor, and near at hand was apparatus for conducting experiments. The books were the latest scientific works ordered from New York, London, and Paris. He pored over them night and day. Nothing could drag him from his study. He ate at his desk and slept in his chair. In six weeks he had devoured the contents of the books, had made thousands of experiments on the formulas, and had produced one solution—the only one in the world that would do the very thing he wanted: record two hundred words a minute on a wire hundreds of miles in length.

At another time, after the success of the incandescent lamp had been proclaimed to the world, all of the experimental lamps in Menlo Park suddenly went out after burning for a month. It was a terrible disappointment; the general public laughed at the wild dreams of the inventor and called him a "visionary"; the stock of the Company ran so low that no one

would buy it; Edison's great invention was pronounced a failure by scientific men. But the inventor took hold of the question in his characteristic manner: "If those lamps will burn for a month there is no reason, in the nature of things, why they will not burn for a year," he said. There was a reason but it took incredible labor to find it out. Then began the most exciting and exhaustive series of experiments ever undertaken. Edison retired to his laboratory, where he ate and worked and slept—sleeping, however, only when his trusted assistants took his place. When one remembers that the light in an incandescent lamp burns only in a vacuum the difficulties of experimenting may be realized. It was thought that the globe was imperfect and the air not sufficiently exhausted, so expert glass blowers were brought from all over the country and set to work. It became evident that the defect was not there. Edison's eyes grew weak from studying the brilliant carbon filament. For days he ate nothing and seemed surprised that his assistants should suggest rest and food after fifteen hours or more of continuous work. His own excited nerves almost precluded sleep, because, before the inventor's eyes could close, a new test would suggest itself and he must spring back to work. At length he broke down from sheer exhaustion. The moment he was well enough he rushed to the laboratory for further experimentation. Five months of this terrific CONCENTRATION solved the problem. The carbon filament had been made of charred

paper and was impractical. It took no less than two thousand experiments with different substances to discover that nothing but bamboo fiber would meet the need; and then success was won.

At the age of forty-seven Edison said: "Judging by the standards of the ordinary man's working day, I am much older than I look. The average working day is eight hours long. For twenty-one years I have averaged nineteen hours per day. That makes me eighty-two years old. You see my hair is gray; I shall soon be one hundred. Anything I have begun is always on my mind, and I am not easy, while away from it, until it is finished. Life was never more full of joy for me than when, a poor boy, I began to think out experiments in telegraphy, and to experiment with the cheapest and crudest appliances. But, now that I have all I need, and am my own master, I continue to find my greatest pleasure, and so my reward, in the work that precedes what the World calls success."

**Gather the Forces
of Your Nature
Under the Com-
mand of Your Will**

"The longer I live," wrote
Fowell Buxton, "the more deeply
am I convinced that that which
makes the difference between one
man and another, between the
weak and the powerful, the great and the insignifi-
cant, is energy, invincible determination, a purpose
once formed—then, death or victory."

The will is the Washington in every endeavor for independence or supremacy. It sends the bugle message "To Arms" along each nerve, mustering and marshaling every power and marching them forward to victory. Without the will our various attributes and powers are only individuals, moving without direction, acting without purpose, operating without support. When brought together and commanded by the will we get the advantages of co-operation and combination; if one faculty is baffled or beaten back the will sends others to its aid, if one quality is insufficient to surmount an obstacle or overthrow a difficulty then the will moves reserves forward, and the whole man succeeds where a part of the man would have failed. The pathway of life is strewn thick with broken men, like the battle field of a lost cause on the morning following the fight. In looking at these pathetic failures we are often surprised to learn that they were men of unquestioned ability—men of brilliant brain, cultivated mind, inventive skill, mechanical ability, artistic gifts, physical force. But they never got all of their powers into action because there was no commanding officer who could mass and move their reserves and determine the plan of campaign. They fell and failed for lack of the dominating will.

“There is no chance, no destiny, no fate,
Can circumvent, or hinder, or control,
The firm resolve of a determined soul.
Gifts count for nothing; will alone is great;
All things give way before it, soon or late.
What obstacle can stay the mighty force
Of the sea-seeking river in its course,
Or cause the ascending orb of day to wait?
Each well-born soul must win what it deserves.
Let the fool prate of luck. The fortunate
Is he whose earnest purpose never swerves,
Whose slightest action, or inaction serves
The one great aim. Why, even death stands still
And waits an hour sometimes for such a will.”

There were ages of brilliant intellect and inventive skill before our own, and yet they were sterile of practical or beneficent results. With the death of Alexander the Great, the power of will seemed spent and only intellect remained. Alexander awoke the mind of the world, but the mind is powerless unless directed by will. During the century following the death of the mighty Greek Conqueror men had the ability and the means to create a modern civilization but they lacked the purpose. About 300 B. C. Euclid wrote “The Elements of Geometry,” from which we learn today. Nicetus of Syracuse taught that not only did the earth move, but that it revolved upon its axis—an opinion quoted by Cicero. Eratosthenes believed the earth to be round and actually measured its circumference as 30,000 miles, instead of 25,000, as we now know it to be. Aristarchus of Alexandria—a city which then had a University of 14,000 students and a public library of 700,000

volumes—measured solar and lunar distances by means of angles just as we do today. Hipparchus discovered the procession of the equinoxes, invented the planisphere, and applied spherical trigonometry to the solution of astronomical problems. Ctesibius laid the foundations of hydro-mechanics and devised a number of hydraulic and pneumatic machines—the siphon, the hand fire-engine, and the force pump being the most notable. His pupil, Hero, actually invented the steam engine—a sort of steam turbine without piston or cylinder. This was about 200 B. C. and the discovery was forgotten for more than twenty centuries. This same Hero also developed a hot-air engine which he used to open and close the doors of a temple and which the common people thought to be a miracle. Archimedes founded the science of hydrostatics, worked out the idea of specific gravity, invented the screw pump, the endless screw, a huge crane for lifting ships out of the water, and various hydraulic and compressed-air machines. This list sounds very modern, as if it were attributing to ancient philosophers the work of Galileo, Newton, Herschel, Faraday, Watt, and Parsons. For centuries these great triumphs of mind were forgotten because the men who conceived them had not the will to execute them and adapt them to the service of mankind.

We have already stated that the powers and faculties of mind and body will be useless unless placed under the direction of a strong, commanding will, and

the question immediately arises whether this all-essential quality of will can be cultivated. What is the will? Nothing is harder to define; probably it is impossible of definition. It is the force of personality, the spring of all action, the deciding, impelling, controlling quality of our nature. In the last analysis it is the will that determines whether a man born on a farm shall be a farmer or a financier, whether a child born in the city slums shall be a tramp or a scientist, whether a life that began in poverty shall end in a poorhouse or a palace. Your will can make you think as it can make you act, and can determine the line of your thought. Schools and colleges cannot make a scholar but will can, even where there are no schools and colleges available.

Is the power of volition, this will, born with us and fully developed at birth, or is it a quality which has the possibilities of growth, as brain or muscle has? We believe emphatically that the will can be cultivated. The history of numberless prominent and successful men who were dunces in boyhood and lazy in early manhood but who subsequently became famous or wealthy or powerful amply proves our position. And as the exercise of will is essential to CONCENTRATION and CONCENTRATION is essential to success in any occupation we shall try to outline a way in which the will may be strengthened and its power increased.

The first evidence of a weak will is noticeable in the shirking or evasion of unpleasant things. As

soon as we become aware of this tendency we must lay down certain rules of action to which we should adhere with unvarying regularity. For instance, most men have a physical dislike of cold water. Supposing we "fight it out on that line if it takes all summer" and all winter too. We lay down the law that we will take a cold bath every morning. The mere thought may be appalling at first. To make our resolution surer we fill the bathtub on the preceding night. The first morning it is agony, but we survive. With the brisk rubbing there comes the grateful glow of the reaction. The following morning we are fortified with the one successful experiment and force ourselves again to pass through the ordeal. Thus we go along for a month; each morning requires a new exercise of the will but each day begins with a decisive victory. And there is something in a local victory which makes for a general triumph. Later in the day we find a situation from which we shrink; the bath is in our minds and we say "Do this too!" In course of time the will gets the habit of mastery, dislikes to be thwarted, and establishes a long line of minor conquests which make the issue inevitable when the critical battle ground is reached upon which our success or failure for life is to be determined.

Then perhaps we may have to fight it out along the negative line also. Indulgence of appetite may be presaging our ultimate defeat. It needs a decisive exercise of the will to deny ourselves the enjoyment of that which we crave. We determine upon a course

of discipline. Perhaps we decide that we will give up coffee at breakfast—not upon any physical grounds, but simply as an exercise of the will. A few mornings of denial confirm the will and strengthen it. After that, with the vigor of a lesser victory inspiriting the will, we determine to give up alcoholic drinks, and succeed in the attempt. Later we enlarge the domain of the will and surrender other forms of pleasure that are detrimental to our best progress and in due time we find that the once feeble will has risen to a place of mastery and dominion in our lives and is quite capable of determining what our future shall be. Thenceforth the more difficult tasks of life are attempted and worthily achieved and we rejoice that the disciplined and developed will has lifted us out of the low levels of life onto the plain of distinguished accomplishment. So without doubt experience proves that will-power can be cultivated by any one, and, unless it is so cultivated and strengthened, life will be a series of ever-deepening discouragements and failures.

**The Will Holding
the Forces of Your
Nature Steadily
Upon One Object**

The will determines the direction and the persistency of our efforts. Robert Dale Owen confessed that his life was a failure because it lacked a steady and resolute and well-defined purpose. "Whoever is resolved to excel in painting, or indeed in any other art," said Sir Joshua Reynolds, "must bring all his

mind to bear upon that one object from the moment that he rises till he goes to bed." Aristotle admitted that he owed his vast acquirements to his having command over his mind, to his ability to hold his attention steadily to a given object—rather than to any natural superiority of intellect. Sir William Hamilton said that "the difference between an ordinary mind and the mind of Newton consists primarily in this, that the one is capable of a more continuous attention than the other—that a Newton is able, without fatigue, to connect inference with inference in one long series toward a determined end; while the man of inferior capacity is soon obliged to break, or let fall, the thread which he has begun to spin." And Newton himself acknowledged that he owed all he won to "patient, concentrated thought."

Life is so brief that there is not time for many changes of occupation. Each such change involves a number of readjustments, the bringing into prominence of faculties and energies hitherto unused or partially engaged, thus implying a new system of discipline, and every change necessitates a certain waste of ability already acquired. Happy indeed is the man who knows his line of work, who has settled the question of the direction of his efforts! He loses no time in wavering and irresolution and can give his entire self to the realization of his well-defined purpose.

**The Accomplish-
ment of a Definite
Purpose**

Two things are fatal to success—vacillation and drifting. John Sherman, in a letter to a young man who believed himself to be a failure, said, "No ship ever reached its port by sailing for a dozen other ports at the same time." "There is a limit," said Gladstone "to the work that can be got out of a human body or a human brain. He is a wise man who wastes no energy on pursuits for which he is not fitted; and he is wiser who, from among the things he can do well, chooses and resolutely follows the best." Cecil Rhodes, the South African millionaire and statesman and the founder of the Rhodes Scholarships in Oxford University, said, "It took me fifteen years to get a mine, but I got it. Though my boat may be slow in the race, I know exactly what I am starting for." Edward Emerson Barnard began life as a photographer's boy, his work being to sit upon a roof and watch the exposure of photographic plates. While thus engaged his thoughts were upon the sky and the stars, and he determined to know all about them. Alone and unaided he struggled through such books as he could get upon astronomy, studied and mastered mathematics, scrimped and saved until able to purchase a small telescope, and finally, so great was his ambition, he worked his way through Vanderbilt University. Nothing swerved or daunted him, rebuffs from prominent astronomers who thought him only a precocious and conceited boy did not dishearten him, apparently insurmountable difficulties

only served to stimulate his determination to know everything that could be known about the heavens. He graduated from the University in 1886 and in less than twenty years found himself one of the foremost of the world's astronomers, the discoverer of the fifth satellite of Jupiter, and the recorder of more comets than any living man. In the end such well-directed resolution is bound to win fame, or power, or wealth, or whatever other goal the worker may have set before him. Field spent thirteen years in laying the Atlantic Cable, Webster gave thirty-six years to the compilation of his dictionary; Bancroft devoted twenty-six years to the writing of his "History of the United States"; it took James Watt thirty years to bring his condensing engine to perfection. "There is no road too long to the man who advances deliberately and without undue haste; there are no honors too distant to the man who prepares himself for them with patience," said La Bruyère.

Nothing worthy can be accomplished by the man who simply drifts. Thousands of life-failures may be thus accounted for every year—the men who never decide, only drift. They were born into the world without any conscious effort on their own part and they wish to continue to the end with just as much ease as at the beginning. So they dodge difficulties and evade responsibilities; nothing is so distasteful to them as the act of decision, or so irksome as the spirit of determination. They drifted into school and out again; they drifted into the occupation

that presented the fewest initial difficulties; they have drifted from job to job and city to city; they drift from pleasure to pleasure, from meal to meal, from drink to drink, from sleep to sleep. And most of them are languidly cursing the Creator and the constitution of the universe because things were not so ordered that they could drift into fame, or wealth, or honor, or power. The only hope for such men is that some event, or thought, or ambition, shall show them the fatality of their course and galvanize their wills before it is too late.

**The Need of
Infinite Patience
and Tireless
Persistency**

No more striking illustration of failure as the result of lack of persistence and CONCENTRATION can be found than that of Richard Trevithick. Trevithick was born in Cornwall, England, just ten years before George Stephenson. In early years he drifted about the mines, refusing to go to school and thus losing the discipline which application to study gives to the will. As he grew up he developed a most original mind, great mechanical skill, and the habit of industry. He preceded many well-known inventors by his novel plans and constructions, and showed a fertility and resourcefulness in all lines of engineering that was truly marvelous. He improved the Watt engine by doing away with the condenser and introducing a simple, effective, and economical direct high-pressure

system. He also used for the first time a cylindrical wrought-iron boiler. In 1803 Trevithick constructed the first steam carriage and ran it successfully on a road for ninety miles. He then took it to London and won the admiration of Sir Humphry Davy and other distinguished scientists. But for some unknown reason he developed the scheme no farther, broke up the engine, and returned to Cornwall to resume ordinary mine-engineering. Later he built another engine which was really the first of all railroad locomotives. Its cylinder was four and three-quarters inches in diameter, and was placed horizontally. A big flywheel was geared through intermediates to the four propelling wheels, which were smooth-rimmed. It ran on iron rails, and under forty pounds steam pressure made five and one-half miles an hour drawing heavy loads, and was in every way an astonishing success. But instead of following up this success he went back to general engineering. In 1806 he undertook to ballast all ships leaving London by lifting mud from the bottom of the Thames with bucket-machines. Two years later he invented a means of discharging ships of their cargo, and stowing cargoes by machinery; and in 1809 he took out patents for constructing armored vessels by means of wrought-iron plates. About the same time he organized a company for tunneling the Thames in the busiest part of London, but, after excavating 1,100 feet, difficulties discouraged him and he gave up the project. This was followed by experiments in steamship construction and his

patents specify and describe, among other marvelous things, our modern screw propeller. Later he built a number of engines for pumping out abandoned silver mines in Peru, but the enterprise failed and he was left ragged and penniless in South America. In spite of all these brilliant achievements Trevithick's life is a record of missed possibilities, the story of ignoble failure through lack of patient persistence. One of his biographers speaks of this feature as "a trait of character that in the end ruined his life and deprived him of the honor and rewards that were his desert." He died in 1833 so deeply in debt that he was buried by subscription raised among the men who had worked for him, and not even a simple slab marks the resting place of this great but vacillating inventor!

The honors and rewards which might have gone to Trevithick went to George Stephenson. The story of Stephenson's early disadvantages and how he overcame them has already been told. It is sufficient to add, that, although Stephenson had no greater ability than his predecessor, he possessed the quality that made all his powers effective—a determined will. He was able to continue steadily, patiently, and persistently at a task or experiment until he settled the last doubt and convinced the world of its worth. In one year he traveled twenty thousand miles in a post chaise; he employed a secretary who followed him about, and often wrote from twenty to forty letters a day—letters of technical detail, arguments

for committees, reports for directors, and plans for improvement. On one occasion he dictated continuously for twelve hours on a subject involving the most difficult and intricate material.

Alfried Krupp, who, next to Bismarck, did more to make modern German supremacy than any other man, may safely be called a pattern of CONCENTRATION. Dwight Goddard, in telling the story of Krupp's struggle and achievement says that "Extraordinary application and dogged perseverance explain the success of Alfried Krupp. Many a life of promise has come to nothing from scattering its forces. Alfried Krupp surpassed expectations by CONCENTRATION and perseverance." When Alfried was fourteen years old his father died leaving as an inheritance a forge, a laborer's cottage, and the secret of making steel. The boy went to work immediately, impelled by a secret vow to succeed where his father had failed. "For twenty-five years he worked unremittingly, by daylight at the anvil and forge, by lamplight at his accounts and books. For years he could hardly pay the wages of his men, let alone any profit to himself. After twenty-five years the clouds of care began to break away, and henceforth success came in almost geometric progression—the marvel of the world." In 1826 when Krupp began his work he had two helpers but no tools. These he had to make himself. In 1832 he had ten workmen; in 1845 one hundred and twenty-two; in 1876, fifty years after his

discouraging start, the Krupp works at Essen employed twenty-five thousand men.

It is evident from such examples that success in modern industry and commerce demands specialization. While it is true that a thousand doors of opportunity stand open, a man cannot pass through ten of them at once, nor even two. What is needed is not a vast amount of general information but a perfect grasp of specific knowledge, not the ability to do numerous things moderately well but to do one thing with superlative excellence. The student should understand this condition of success in modern life beyond all shadow of doubt. While on the threshold of his career he ought to become familiar with the laws of the great competition in which so many versatile and able men fail each year. If success lies in knowing one subject or occupation thoroughly, it is unwise to cover too much ground; it is better to narrow the field to a particular branch of a particular science or art, to master the determining principles and their technical application, to be as familiar with every detail of the subject as one is with the alphabet.

William Mathew's words on this subject are especially worthy of careful consideration: "There is but one possible remedy for the inability to gather together the mental powers and concentrate them exclusively upon one object, and that is—CONCENTRATION. In other words, it is only by continued, strenuous efforts, repeated again and again, day after

day, week after week, and month after month, that the ability can be acquired to fasten the mind on one subject, however abstract or knotty, to the exclusion of everything else. The process of obtaining this self-mastery—the complete command of one's mental powers—is a gradual one, its length varying with the mental constitution of each person; but its acquisition is worth infinitely more than the utmost labor it ever costs. It is a process to which, however painful or protracted, every thinker worthy of the name, even the mightiest, has had to submit—not excepting Archimedes, who, at the capture of Syracuse, was so intent on his problem that he did not notice the hostile soldier who had entered his study. Fortunately there is no faculty of the mind that grows and strengthens more surely and inevitably by practice than this power of attention—of continuous CONCENTRATION."

**Learn to Live for
the Future Rather
Than the Present**

The habit of CONCENTRATION in study is one of the best investments a young man can make. It not only gives to him the immediate reward of knowledge, it also trains him for action, especially rapid action at those critical periods of after-life when everything depends upon mastering a situation thoroughly and swiftly. Napoleon's CONCENTRATION while at school in Brienne was as phenomenal as during his subsequent career. "So great was his ardor for intellectual improvement

that he considered every day as lost in which he had not made perceptible progress in knowledge. By this rigid mental discipline he acquired that wonderful power of CONCENTRATION by which he was ever enabled to simplify subjects the most difficult and complicated." Education is not a scheme to enable a man to live without effort; it is a preliminary discipline by means of which a man may do more and better work.

As the decades pass the figure of Abraham Lincoln looms up greater and greater. Time is giving us the right perspective and each year makes him seem more of a miracle. Yet in sober truth no man ever had less of the miraculous in his history. His rise was not even sudden but by the slowest and most tedious gradation. Every step has been distinctly traced and there is not one of them which any other man might not have taken. Where he differed from other men was in the fact that he never stopped stepping until he reached the dizzy height of power and fame. It did not make him dizzy because he had ascended so slowly.

He began absolutely at the bottom—there was not even a step to the front door of the cabin in which he was born; until he was twenty-one not a board separated his feet from mother earth. No artificial contrivances of civilization aided his advance; he pushed himself along by sheer force of elemental qualities. Social jack-screws and financial derricks may lift a little man to a certain altitude, but they have their

limits. Lincoln did not need them. Had they been at his command they might have made him a figure but they could not make him a force.

When Lincoln stood on the steps of the Capitol in 1865 and delivered his second Inaugural Address he was the embodiment of forty-six years of slowly accumulated habits. The world soon rang with applause for the wise and prophetic speech, and the London "Times" said the Inaugural was the greatest state paper of the century. The flawless logic and the faultless phrase, whence came they? According to his own account, Lincoln went to school "by littles"; "in all it did not amount to more than a year." And what teachers they were in those days! Scarcely one of them could go beyond "readin', writin', and cipherin' to the rule of three." Such a curriculum was not likely to lead to "the greatest state paper of the century," such a school was hardly planned for the making of a President. We must find the secret elsewhere. It is here—Lincoln developed the *Study Habit*! But the *Study Habit* implies patient and persistent CONCENTRATION, and the mastering of one's moods.

Shut off from the schools and colleges, Lincoln read and studied every book he could find. His father's little library was pitifully small, so he borrowed from far and wide. He once told a friend that he "read through every book he had ever heard of in that country, for a circuit of fifty miles." With nothing but a turkey-buzzard pen and home-made ink he

made a careful synopsis or copied long extracts from everything he read. These he read over and over until committed to memory. Shingles, boards, shovels, doors, served as notebooks when he ran short of paper. He always kept a book in the crack of the logs near his rough bed, ready to seize the moment he awoke in the morning. At night he made use of the fire on the hearth for light and studied long after the other members of the family were fast asleep. He carried books with him wherever he went, valued every spare moment as an opportunity for reading, even chose his occupations with a view to the chances they offered for study.

Difficulties could not daunt a man who early in life had cultivated such a habit. When Lincoln began to study law he had to tramp twenty miles every time he wanted a law book. In doing so he would read and digest about forty pages each trip. He never allowed the subject to slip from his mind; when manual labor made it impossible for him to be reading he would recite aloud what he had last read and fix it forever in his mind. Twenty years after this time, when he was an acknowledged leader of the Illinois bar, he gave the following advice to a young man who wished to become a lawyer: "Get books, and read and study them carefully. Begin with Blackstone's 'Commentaries,' and after reading carefully through, say twice, take up Chitty's 'Pleadings,' Greenleaf's 'Evidence,' and Story's 'Equity,' in succession. Work, work, work, is the main thing."

The habit of focusing every power of the brain upon one occupation is the key to successful scholarship. One who gives only a part of his mind masters only a part of the subject. When Lincoln learned anything it was his for all time; he never had to go back to verify impressions; the facts and principles, even the very words, were fixed in his memory forever. CONCENTRATION is the only way to acquire thoroughness.

At the age of twenty-four Lincoln saw that there was not much of a future in general storekeeping. He was offered the position of deputy county surveyor. The only difficulty in the way of accepting was that he knew absolutely nothing about surveying. But what did such a trivial obstacle amount to? He borrowed Flint and Gibson's treatise on the subject and bent his will to the task of mastering it. He worked as if his temporal and eternal well being depended upon the effort; everything else was banished: friends, pleasures, and food were almost forgotten; day and night he kept at it, denying himself sleep, until he was pale and haggard and the neighbors expostulated. In six weeks he had mastered every branch of the subject upon which he could get any information, and reported for work. No wonder he was a good surveyor. One of his biographers says: "Lincoln's surveys had the extraordinary merit of being correct. His verdict was invariably the end of any dispute, so general was the confidence in his honesty and skill."

While keeping his grocery store in New Salem, Illinois, Lincoln bought a barrel of old household stuff for fifty cents. In it he found Blackstone's "Commentaries." He began to study them. Speaking of it in after life he said: "The more I read the more intensely interested I became. Never in my life was my mind so thoroughly absorbed. I read until I devoured them." That CONCENTRATION was the foundation of his success as a lawyer.

One day while still a law student in Springfield, Lincoln found he did not understand the meaning of the word 'demonstrate.' He told the story himself: "At last, I said, 'Lincoln, you can never make a lawyer if you do not understand what demonstrate means,' and I left my situation at Springfield, went home to my father's house and stayed there until I could give any proposition in the six books of Euclid at sight. I then found out what 'demonstrate' meant, and went back to my law studies."

**Learn to Master
Your Moods, to
Spurn Diverting
Temptations**

Having learned the inestimable gains and the lofty positions that result from persistent or concentrated effort we are doubtless convinced that hardly any price is too great for the realization of such an end. Yet there are times when an inherited inclination or an acquired taste threatens to overthrow our purpose. At such a moment we must summon our sternest resolution

and act toward the tempting disposition as though it were a traitor about to sell us to the enemy. No margin of hesitation or leniency must be allowed. We must put the will in immediate command and force every desire, appetite, wish, and emotion into unconditional obedience, and then in the language of General Grant "we must fight it out along that line if it takes all summer."

Self-Reliance



Self-Reliance



It is probable that many a man will agree heartily with all that has been said in the preceding chapters and yet will hesitate to apply it to himself. He will admit that the opportunities of life are multitudinous and real, and that in some form and at some time they present themselves to every one; he will agree that bad habits can be broken and good habits cultivated, if one has sufficient incentive and determination; he will readily consent to all that has been said of the power of Industry and how indispensable work is to any form of achievement; he will concede that Concentration is necessary to the winning of any worthy goal, whether in the world of study, or of commerce, or of science; but—and here he hesitates—he cannot persuade himself that the fruits of these wonderful accomplishments are for him. Others may win distinguished positions, others may amass great fortunes, others may lay the world under obligation for valuable inventions, others may be crowned with success and be pointed out as having done something well worth doing, but so far as he himself is concerned Nature has consigned him to a life of inconspicuous drudgery, or of meager attainment, or of constant struggle to ward off complete failure. The one thing such a man lacks is SELF-RELIANCE. If he can once be made to see and feel that he is a member of

the class which he admires and envies, that success belongs as much to him as it does to others by inalienable right, that he is capable of realizing far greater things than he has ever dreamed possible, then he will rouse himself and insist upon obtaining whatever is within his reach. If once satisfied that he *can*, then he *will*. At present it is not the absence of desire, or ability, or willingness, but an absence of belief in himself, a lack of confidence in his personal qualification. If he can be persuaded into a firm faith in himself, then the greatest battle of all is won, and whatever may come later in life will be only skirmishes while taking possession of his own domain.

**Have Faith in
Yourself**

Probably there are thousands of boys and young men in the schools and colleges, in the fields, factories, offices, and shops of the world, capable of the very highest achievement, able to do things as great and valuable as any that have already been done, but who cannot bring themselves to launch out on their own behalf. In this sense they are lost. The writer was once fishing for trout in a river flowing through a sparsely populated country. He and his companion were suddenly stopped by a waterfall having a drop of about fifty feet. One of the sportsmen said, "What a shame this river is lost." "Lost!" echoed the other in a tone of surprise; "Lost! How can the river be lost? It is right here now and has

been here for ages." "Yes," responded the first speaker, "but it is lost because it is not used. There is enough power running to waste in these falls to make a great industrial city." In exactly the same way multitudes of men are lost to themselves and lost to the advancing interests of civilization by failing to use themselves to their full advantage. They are doing little things when they might be doing great things, they are letting forces run to waste which are supremely valuable and by which they could accomplish astounding results. They need to do some prospecting among their own powers and then, when the assay turns out to be surprisingly high, they need the courage to work the vein. If it were possible to take an X-ray picture of our powers and faculties, every one of us would realize that there has never been any danger of overestimating his possibilities. We should then see that the powers we possess are exactly the same in number as those possessed by the greatest man of this or any other age, and that the only difference lies in the extent of their individual or total development. All eyes are practically alike, only some are developed and some are not. The artist or the astronomer sees more than the laborer because he has trained and disciplined his sight by careful and constant use. But such an X-ray picture would reveal something far more astounding; namely, that the faculties and powers which seem to us to be fulfilling their functions very creditably are capable of doing infinitely more. There are vast

unused resources within us; we have drawn only upon the surface—upon the qualities that could be most easily employed, while down below are great untapped reserves. It is such a belief as this that makes men SELF-RELIANT.

“My success has always turned upon one maxim,” said Nathan Rothschild. “I said, ‘I can do what another man can,’ and so I am a match for all the rest of them.” Ruskin says, “All great men not only know their business, but usually know that they know it; and they are not only right in their main opinions, but they usually know that they are right in them.” When James Gordon Bennett sent Stanley to find Livingstone, he did not ask Stanley if he thought he could find him, he simply furnished the money. And Stanley started for the unexplored continent without a question, saying, “If Bennett wants me to find Livingstone I can find him, alive or dead.” Galileo heard that a Dutchman had made and given to Count Maurice of Nassau a curious instrument by means of which distant objects were made to appear as near; and this was all the rumor stated. But it was enough for Galileo; he believed he could do what any one else had done. He immediately set to work to find out the principle upon which the new discovery was based and very soon decided that it was by an arrangement of spherical glasses. In the course of two or three days he presented a telescope to the Senate of Venice with an extended memoir upon its importance and value.

When Lincoln struck out for himself in 1830 he had no money, no trade, no profession, no social influence; but he had what was better than any of these, SELF-RELIANCE. He heard a candidate for office make a public speech, and said, "I can make a better speech than that." Thereupon, he decided upon a political career. "I have talked to great men," he remarked, "and I do not see how they differ from others." His Self-Reliance, however, was not self-conceit. He sought the advice of the local school-master, who said, "If you are going before the public you ought to study grammar." There was only one book on the subject in the neighborhood, so he immediately tramped the six miles to the home of its owner, borrowed it, and in a few weeks had mastered the contents of Kirkham's 'Grammar.' "Well," said Lincoln, "if that's what they call a science, I think I'll go at another." No sooner was the task over than he announced himself a candidate for the General Assembly of Illinois.

Some time after Lincoln had achieved considerable success as a lawyer, he was engaged upon an important case in Cincinnati, in which he found himself associated with men of high training—college graduates, equipped with the culture of the more developed East. After the trial he said to a friend: "Emerson, I am going home to study law." "Why," Emerson exclaimed, "Mr. Lincoln, you stand at the head of the bar in Illinois now! What are you talking about?" "Ah, yes," he said, "I do occupy a good position

there, and I think I can get along with the way things are done there now. But these college-trained men, who have devoted their whole lives to study, are coming West, don't you see? And they study their cases as we never do. They have got as far as Cincinnati now. They will soon be in Illinois. I am going home to study law! I am as good as any of them, and when they get out to Illinois I will be ready for them."

"In battle or business, whatever the game,
In law or in love, it's ever the same;
In your struggle for power, or scramble for pelf,
Let this be your motto: *Rely on yourself.*"

**Capacity is Not to
be Estimated by
What We Have
Done**

Nearly all great careers can show an unsuccessful or meager beginning. Sydney Smith writes: "Generally speaking, the life of all truly great men has been a life of intense and incessant labor. They have commonly passed the first half of life in the gross darkness of indigent humility—overlooked, mistaken, condemned by weaker men—thinking while others slept, reading while others rioted, feeling something within that told them they should not always be kept down among the dregs of the world. And then, when their time has come, and some little accident has given them their first occasion, they have burst out into the light and glory of public life, rich with the spoils of time, and mighty in all the labors and struggles of the

mind." Henry Wilson began life as a farm boy and continued to work like a slave until twenty-one years of age, but he felt great stirrings within him and had the courage to believe that he was capable of larger things. While still working on the farm he managed to read more than a thousand books borrowed in the neighborhood, and studied chiefly by firelight. Later he became a shoemaker and passed from that to school-teaching. After years of almost incredible toil and privation, he reached the Massachusetts Legislature, served the Commonwealth with marked ability, and was sent to the United States Senate. Eighteen years later he was elected to the Vice-Presidency. James Watt, the inventor of the steam engine, suffered acutely from poverty and hardship in his early years. At fifteen he was vainly walking the streets of London in search of work; later he did odd jobs around Glasgow University and during his spare time experimented with any machinery he could find. When engrossed with his idea of steam pressure, he actually suffered for want of food, his friends tried to dissuade him from further wasteful experiments, and ill health frequently prostrated him. But nothing could daunt him; he felt himself able to realize his great plans, if only health would hold out long enough. In the financial world, the immensely rich men like Astor, Vanderbilt, Peabody, Rockefeller, Carnegie, all knew the pinch of poverty, and learned the value of money through earning their first dollar by hard and humble work.

Very many of the world's most distinguished men did not succeed until middle life was reached. In some instances long years of grinding apprenticeship were necessary to cultivate the faculties; in other cases, the men were not aware that they had great powers locked up in their nature, until a sudden emergency made an unusual draught upon their resources and thus revealed the unsuspected possibilities; here and there we find an example of slow development as the result of an early mistake—the adoption of an unsuitable profession or business, for instance. At forty years of age Ulysses S. Grant was a failure as a real-estate dealer. Three of America's greatest practical benefactors were artists: Fulton, the inventor of the steamboat was a creditable painter, but his powers were stronger along the mechanical line; Morse, the man who made telegraphy practicable, actually won a certain fame with his brush before turning his attention to scientific pursuits; Alvan Clark was thirty-nine when he dropped portrait-painting to manufacture telescopes. Sir Christopher Wren, the architect of St. Paul's Cathedral, London, was a professor of astronomy; all he knew of architecture he taught himself, and when the great fire of London swept away the entire center of the city, Wren submitted plans for the rebuilding of the Cathedral, which were accepted, he himself superintending the work of construction during the thirty years necessary to its completion. Professor Benedict, a teacher of Latin, heard the click of an

experimental typewriter and instantly realizing the possibilities of the invention, threw down his Latin grammar and began to manufacture the Remington machine. Alexander Graham Bell, the successful adapter of the telephone to practical use, whereby he made an immense fortune, was a teacher in a deaf-and-dumb institution, when his private studies in electricity and telegraphy opened his eyes to the possibility of speaking through a wire.

To measure the possibilities of life by what we have already accomplished implies an unworthy and an incomplete conception of ourselves. The science which deals with man's inner life, his powers, faculties, and senses—Psychology—assures us that there are large strata of energy, deep in our nature, upon which we have not yet drawn. The latest description of this condition is by Professor William James, of Harvard University: "It is evident that our organism has stored-up reserves of energy that are ordinarily not called upon: deeper and deeper strata of combustible or explosible material, discontinuously arranged, but ready for use by any one who probes so deep, and repairing themselves by rest as do the superficial strata. Most of us continue living unnecessarily near our surface. . . . Of course, there are limits: the trees don't grow into the sky. But the plain fact remains that men the world over possess amounts of resource, which only very exceptional individuals push to their extremes of use. But the very same individual, pushing his energies

to their extreme, may in a vast number of cases keep the pace up day after day, and find no 'reaction' of a bad sort, so long as decent hygienic conditions are preserved." Which simply means that a man is much larger than he thinks himself to be, that he is capable of doing more than he has ever dreamed of attempting, and that, having started doing more, he can continue doing it indefinitely. Such a belief as this will create in any man the habit of SELF-RELIANCE: he will believe he is able to do things before he tries to do them, and he will try constantly to do greater things because he believes he is able to accomplish them.

**What We Believe
We Can Do**

Let us trust our instincts. When we become aware of these elements of personal strength let us say to ourselves, "They are there to be used." Our past achievements may be too small to inspire or guide us, but nevertheless we may deliberately choose a much more difficult task and attempt it with confidence. The past must not be allowed to hamper or block our future. When Bernard Palissy reached the age of thirty-two, he had accomplished nothing of note but was earning a comfortable living for himself and family by making church windows and acting as a land surveyor. One day he saw an exquisitely enameled Italian vase and the vision haunted him. The art of enameling had been forgotten; his own country, France, was producing nothing in that

line. Palissy finally determined that he would learn how to enamel and make vases as beautiful as the one he had seen. He believed he could; he said he would, or die in the attempt. During the weary years that followed, he was ever saying to himself: "If I find out the secrets of pottery, my wife and children will live in plenty. Now it is starvation—by and by it shall be wealth and fame." Palissy has himself told the story of the sixteen years of terrible struggle and privation before he succeeded: "I had no means of learning the art of pottery in any shop. I began to search for enamels without knowing of what they were composed, as a man gropes his way in the dark. I pounded all the materials I could think of. I bought a quantity of earthen pots and, breaking them to pieces, I covered them with the substances I had ground, making a note of the drugs I had used in each; then having built a furnace, I put these pieces to bake, to see if my drugs would give any color. When I had spent several years in these attempts I again bought earthen vessels and, having broken them up, covered three or four hundred of the pieces with experimental enamels and carried them to a pottery, asking the potters to allow me to bake them. There was found one of these samples which became melted in four hours, which gave me such joy that I thought I had then discovered the perfection of white enamel." The end was in sight but still a great way off. Many attempts were destined to fail before his beautiful

white enamel was brought to perfection. The family was on the verge of utter starvation; six of his children died—primarily of starvation, it was believed at the time; his wife was in rags and pleaded piteously for him to desist. But Palissy believed in himself so absolutely that he was sure the secret would be learned soon or late. We will allow him to continue his story: "My wood having run short, I was obliged to burn the stakes from my garden fence which, being consumed, I had to burn the tables and boards of my house in order to melt my second composition. I was in such anguish as I cannot describe, for I was exhausted with the work and the heat of the furnace. It was more than a month since I had a dry shirt on. Then my neighbors laughed at me and reported about the town that I burned my flooring boards, and by such means they made me lose my credit and pass for a fool. Others said that I sought to coin false money, an evil report that made me shake in my shoes. I was in debt in several places. . . . No person helped me; on the contrary, they laughed at me; saying, 'Serve him right to die of hunger, for he neglects his business.' " At length he reached his final effort. After pulling his furnace to pieces to build it another way, all went finely for a time, when, in the midst of the baking, an explosion occurred which drove a lot of stone splinters into the half-baked enamel. His neighbors and creditors gathered around and wanted to buy the spoilt vases and medallions for a trifle. "But," says

Palissy, "because this would have been a cheapening of my credit I completely destroyed the whole of the articles. I met with nothing but reproaches at home. My neighbors called me a madman. . . . The hope which supported me gave me such courage for my work that oftentimes, to entertain persons who came to see me, I would try to laugh, although within me I felt very sad." But at length success really came. Palissy pottery was bought up at any price, none too high for his exquisite handiwork. Nobles and kings came to watch him at work; wealth, honors, and fame were now his own. In the Louvre Museum, in Paris, one large room is entirely filled with Palissy ware. But this must not be forgotten: that through the long and terrific struggle all he had to stand upon was SELF-RELIANCE, an unshakable confidence in his own powers.

It is SELF-RELIANCE that changes knowing into doing. Even when we are convinced that within us there is the capacity for better or larger results than we have yet realized, nothing but SELF-RELIANCE will lead us through the possible to the actual. Christopher Columbus believed that land lay to the west and that if he continued to sail westward he could not fail to reach it. The opinion of others counted for nothing—he believed in himself. In the log of that memorable voyage he wrote, day after day: "This day we sailed westward, which was our course." Not even a mutinous crew could thwart such a confident soul.

“Behind him lay the gray Azores,
Behind the Gates of Hercules;
Before him not the ghost of shores;
Before him only shoreless seas.
The good mate said: ‘Now must we pray,
For lo! the very stars are gone.
Brave Adm’r’l, speak; what shall I say?’
‘Why, say: ‘Sail on! sail on! and on!’”

“‘My men grow mutinous day by day;
My men grow ghastly wan and weak.’
The stout mate thought of home; a spray
Of salt wave washed his swarthy cheek.
‘What shall I say, brave Adm’r’l, say,
If we sight naught but seas at dawn?’
‘Why, you shall say at break of day:
‘Sail on! sail on! sail on! and on!’”

“They sailed and sailed as winds might blow,
Until at last the blanched mate said:
‘Why, now not even God would know
Should I and all my men fall dead.
These very winds forget their way,
For God from these dread seas is gone.
Now speak, brave Adm’r’l; speak and say—’
He said: ‘Sail on! sail on! and on!’”

“They sailed, They sailed. Then spake the mate:
‘This mad sea shows his teeth tonight.
He curls his lip, he lies in wait,
With lifted teeth, as if to bite!
Brave Adm’r’l, say but one good word:
What shall we do when hope is gone?’
The words leapt like a flaming sword:
‘Sail on! sail on! sail on! and on!’”

**The Foundations
of Future Success
Are Within You**

It is not well to form the habit of relying upon the judgment or good-will of others. Occasionally the opinion of an expert may be very valuable, and once in a great while the generosity of our fellows may aid us over a difficult place; but in the main each man must live his own life in his own way, forming his judgment to the best of his ability, resting his claim to success upon his personal resources, relying upon his own powers to cleave a way through obstacles. A man may waste his most precious years in consulting relatives and friends about the advisability of a possible course. By the time he has collected and sifted the various opinions the opportunity will probably be gone forever. The really self-reliant man does not wait for private or public indorsement, but with a promptness born of self-confidence seizes the chance and turns it to advantage before it can slip away. In fact, much of the very best work of the world has been done in spite of discouragement and criticism, against the advice of friends and neighbors, and in the teeth of public opinion. The first typefounder and printer was supposed to have been a tool of Satan, and hence an outcast; as early as 1707 Doctor Papin constructed a crude power-boat which was immediately seized by the sailors and broken up because its success might deprive them of work; Hargreaves had his spinning frame destroyed by an indignant mob; Kay was mobbed for introducing his flying shuttle;

Arkwright was denounced as an enemy of the workman because of his invention; Crompton was forced to hide his spinning-mule to save it from public wrath; Stephenson had to carry his railroad forward against violent popular prejudice; Jacquard narrowly escaped with his life from the infuriated weavers who believed that his new loom would rob them of their occupation; Murdock's illuminating gas was openly ridiculed in the British Parliament; Fulton's steamboat was the butt of ridicule and scorn; general animosity compelled Cartwright to abandon his power loom for years; even the beneficent discovery of anæsthetics roused a storm of opposition among scientific men and Doctor Morton, the discoverer, died before the medical world universally admitted the value of his work. Each of these contributors to the progress of civilization had nothing but SELF-RELIANCE as inspiration and support.

The history of Elias Howe, the inventor of the sewing-machine, reveals how SELF-RELIANCE can bring triumph even against tremendous odds. Howe had no early advantages: his entire schooling consisted of a few months under indifferent teachers. He began to work when not more than six years old and was kept at menial tasks until the days of manhood. At the age of twenty-one he was married and earning a scant livelihood as a machinist. It was necessary for his wife to take in sewing that bread might be provided for the increasing family. The sight opened to Howe the possibility of making a machine which

would sew rapidly, evenly, and cheaply. In his spare hours experiments were tried and to his confident spirit the possibility became a certainty. During the succeeding years he devoted his time to construction and the record is one of perpetual failure. He could rely upon no one for assistance. But in 1845 his idea took a practical form and the first machine was made. Five hundred dollars would demonstrate the value of his invention, but for months he sought the capital in vain. At length an arrangement was made with a man named Fisher by which Howe and his family were allowed to live in a garret and the inventor was to be provided with tools and material for his experiment in return for a half-interest in the profits. But the project was full of difficulties and Fisher soon withdrew from the partnership. Howe was friendless, his children half starved, and his idea the object of ridicule and abuse. But he believed he could make a machine that would do the laborious and slow work then accomplished by hand. When the novel machine was at last a fact—successful beyond all doubt—no one would purchase it. Howe turned to England, but was as unsuccessful as in America. He was forced to pawn his machine and patent rights and work his way back across the Atlantic as a cook's assistant. He landed in New York with less than a dollar in his pocket, his wife dying and his children starving. During all those dark years he never lost faith in himself, never doubted the value and ultimate

triumph of his invention. In order to defend his patent Howe had to carry on innumerable law suits; many large tailoring establishments were compelled by jealous hand-sewers to give up the use of the machine; Howe was looked upon as an enemy of the popular rights and insulted upon the streets. But in spite of hunger and calumny he persevered, never hesitating and never pausing, until fame and wealth were won.

**Our Powers Will
Grow With Exercise**

Whenever we believe we can accomplish an end, or reach a goal, or attain an ideal, we then possess the best assurance of success. The powers or abilities, which seem at first so inadequate that they excite ridicule, will grow with exercise until they are equal to any occasion. It may be laid down as a primary law that to believe we can succeed is the most important step toward success. The moment we have the courage to put our faculties into use they begin to expand and strengthen. M. W. Rayens, the General Superintendent of the American District Telegraph Company, of New York, who directly controls fifteen hundred messenger boys, who has seen hundreds rise from such a lowly beginning to influential positions, and who was himself an uniformed messenger boy and rose step by step—gives as his deliberate verdict that “the absence of SELF-RELIANCE is one of the chief defects of

character in young men and is largely the contributing cause of their failure in the business world." There comes a point in every life when a man must turn his face away from the temptation to be content with immediate and easy success and bid for something greater. Daniel Webster, soon after he began the practice of law, was urged to accept an appointment as clerk of the Court of Common Pleas, an office yielding an annual income of fifteen hundred dollars. He was exceedingly poor at the time and his family needed the money. His friends urged him to accept, it would place him in easy circumstances entirely free from risks. But he believed in himself, he thought himself capable of something far greater than a cozy clerkship, and he declined the offer. His acceptance would have given him immediate comfort, but it might have robbed the country of the inestimable services of one of its greatest lawyers and statesmen.

At the age of thirty-six Cyrus W. Field had made enough money in the manufacture of paper to retire from business and live comfortably for the rest of his life. He could indulge his taste for art, literature, and travel. Then there came to him the dream of laying a telegraph cable between England and America. It was entirely an experiment and his friends advised against it; the general public derided such an idea. After considerable thought, Field said: "I believe I can do it!" The task involved the creation of new governmental relationships;

an exhaustive study of ocean currents and submarine conditions; the building of a special ship for the purpose of paying out the cable; but, more difficult than any of these, the making of such a cable as would stand the terrible strain put upon it and yet delicate enough to carry an electric current for nearly three thousand miles without a break. Each item of the program was entirely new to Field, and indeed to every one; there was no experience by which he could be guided. But he believed in himself, in the ability of his own powers to grapple with the difficulties and solve the problems. The gigantic experiment carried him across the ocean forty times; several times was the cable laid before it held and communication was established; Field's fortune was all swallowed up in the enterprise; his associates died or deserted him, Congress refused aid, he was often so ill and worn out that continuous work was impossible; the repeated failures made him a general laughing stock; the Civil War broke out and his Company became bankrupt and Field vainly tried to raise money for the enterprise by begging from door to door. Yet he never lost his SELF-RELIANCE, although he must have been haunted often by the fear and dread of ultimate failure. At a banquet given him by the New York Chamber of Commerce, to celebrate his final success, Field said: "It has been a long struggle. Nearly thirteen years of anxious watching and ceaseless toil. Often my heart has been ready to sink. Many times when wandering in the

forests of Newfoundland in the pelting rain, or on the decks of ships on dark, stormy nights, alone and far from home, I have almost accused myself of madness and folly, to sacrifice the peace of my family and all the hopes of life for what might prove, after all, but a dream. I have seen my companions, one and another, falling by my side, and feared that I might not live to see the end. And yet one hope has led me on, and I have prayed that I might not taste of death till this work was accomplished."

We believe it can be proved that not one notable or valuable thing in all the achievements of the world has been accomplished without a self-faith on the part of the worker which seemed to others conceit or madness. The name of Samuel F. B. Morse is forever associated with the invention of the telegraph. But his first triumphs were in the field of art. He studied in London under the celebrated West and at an incredibly early age was winning medals and praise for original work. Returning home he was soon recognized as a painter of marked ability, and within ten years was elected president of the "National Academy of Design," an office which he continued to hold for the next sixteen years. Fame and an easy fortune were assured when, at about forty years of age, Morse took up the idea of communicating over long distances by means of an electric current transmitted through a wire. It needed a vast amount of courage to abandon a familiar and lucrative field for an entirely dissimilar and untried occupation. But if

Morse possessed any one quality to an unusual degree it was SELF-RELIANCE. The change brought a period of struggle and pain, but what were these when viewed in the splendor of the final success? There were years of experimentation, when even food was scarce. In speaking of that period, Morse said: "Indeed, so straitened were my circumstances that, in order to save time to carry out my invention and to economize my scanty means, I had for many years lodged and eaten in my studio, procuring food in small quantities from some grocery and preparing it myself. To conceal from my friends the stinted manner in which I lived, I was in the habit of bringing my food to my room in the evenings, and this was my mode of life for many years." The term "studio" is rather a misuse of language, for the room in which the great inventor carried on his work was a fifth-story garret and the food was mainly cheap crackers and tea. Ten years after finishing his first machine an application was made to Congress for an appropriation to test the value of the telegraph on behalf of the government. The very idea was ridiculed by all, from the Speaker to the youngest Representative. The Senate was a little more receptive and made a grudging appropriation. After demonstration had proved the feasibility of the telegraph, Morse could find scarcely a man who believed in its commercial value, and no one would invest money in it. The government refused to purchase it or to appropriate anything for further experiments. There were years

more of misrepresentation and public neglect, but at length the tide turned and Morse found himself honored in all lands as one of the greatest men of the age.

Another success story in which SELF-RELIANCE stands forth as the most conspicuous feature is that of Charles Goodyear. India rubber, as a raw product, had been known for more than a hundred years before Goodyear undertook to put it to practical use. Its only value seems to have been as an eraser of pencil marks. Charles Goodyear was a Philadelphia hardware merchant when he began to experiment with rubber, and he struggled for twenty-five years in misery and against recurring failure to discover a means of imparting durability to rubber goods without losing the flexibility of the material. He was thirty-five years old, in feeble health, and with a young family to support. The experiments soon brought him face to face with starvation, he was arrested and imprisoned for debt, his friends deserted him and called him a lunatic. But he believed the end he desired could be reached—the making of rubber into a commercial commodity; and he believed he could do it. He thought that there must be some substance which, mixed with the gum, would render it durable, and he determined to try everything he could obtain until he found it. In the course of the tests he was forced to pawn or sell every article he possessed, even his wife's trinkets. A hundred times in the course of the dreary years he seemed on the point of

succeeding, yet failed. Men laughed and called him a maniac; they openly jeered at him on the street; they tried to reason him out of his purpose. But he never once lost confidence in his ability to succeed. At last the discovery was made—by accident so some said, but really by pluck and SELF-RELIANCE. He had no sooner started to manufacture rubber goods than a financial panic swept everything away—except his self-faith. Friends, relatives, and even his wife all demanded that he should abandon his dreams, yet he persisted; and now, wherever rubber is used in any form, the name of Charles Goodyear is honored.

**Courage to Use
Our Natural
Abilities**

Benjamin Franklin stands out in history as a model of SELF-RELIANCE. The only resources he possessed were those stored within him by nature; he never asked for favors, he never formed the vicious habit of depending upon others to help him along. "To be thrown upon one's own resources," he wrote, "is to be cast into the very lap of Fortune, for our faculties then undergo a development and display an energy of which they were previously unsusceptible." It is certain that there is the capacity for good work in every one of us; all that we need is the courage to trust ourselves. When Napoleon was told that the Alps stood between him and the realization of his plans, he said, "There shall be no Alps!" Let a man look his difficulties

squarely in the face and determine to overcome them, and though they be as high as mountains, they will melt away. The machinist in the shop looks with envious eyes at the position held by the superintendent; between them is a space which can only be bridged by expert knowledge and technical proficiency. The superintendent does not possess a single faculty or power that is not also possessed by the machinist, but those of the one are developed while those of the other are not. Yet there is no cause for discouragement. If a man has a faculty or a power in any degree, it can be immeasurably increased by exercise. If time be set aside for study and the will be allowed to command the nature, the difficulties can be overcome and level after level of efficiency will be reached. Every step upward brings us to a platform from which greater things may be attempted.

The foundation of all effective study will be found to be SELF-RELIANCE—men want to *know* because they are confident that they can *do* if once they possess the necessary equipment. This is why some men have made such desperate efforts to obtain an education. Neither poverty nor difficulty has been allowed to stand in their way. They have hoarded time as a miser hoards gold, snatching at every spare minute as an opportunity for gaining knowledge. Some men have formed the false idea that it is impossible to do brain work when the muscles are tired. It is a mistake to think that mental exercise is

unusually exacting. Even ten hours of hard, continuous study under ordinary conditions, with good light and sufficient fresh air, will not tax the system nearly so much as one hour in a closely-packed, ill-ventilated theater or concert hall. When a firm determination has once led us to form the habit of study, the sense of irksomeness passes away, the student looks forward with eagerness to the glow of triumph which spreads over both the mind and body as the meaning of a law becomes clear or a difficult problem yields up its secret. As fast as we learn that we can do things, we want to do them. Each real step of progress creates the desire and the impulse for the next; difficulties are looked upon as so many athletic events in which the mental powers may make new records; while all the time SELF-RELIANCE is urging the toiler forward to claim what nature has fitted him to win.

Conditions cannot arise which shall daunt such a man when he is once started. Every time he says, "I can," it is instantly followed by, "I will."

That solid achievements can be won against the most discouraging odds has been demonstrated not once, but a thousand times. Elihu Burritt was a blacksmith's apprentice in New England. He determined to obtain an education. At first his studies were all along practical lines, such as mathematics and the principles of surveying. Later he took up languages. When he was about half way through his apprenticeship he decided to learn Latin. In

the evenings of one winter he read the *Æneid* of Virgil; and after going on for a while with Cicero and other Latin classics, he began to learn Greek. During the winter months he was obliged to spend every hour of daylight at the forge, and even in the summer his leisure minutes were few and far between. But he carried his Greek "Grammar" in his hat, and often found a chance, while he was waiting for a large piece of iron to get hot, to open the book with his black fingers, and go through a pronoun, an adjective, or part of a verb, without being noticed by his fellow apprentices. In this way he soon learned all the principal languages of Europe, besides several Asiatic tongues, and he was known far and wide as "the learned blacksmith." A few lines from his private diary ought to act as a tonic upon any man who doubts whether anything of value can be accomplished under unfavorable conditions:

"Monday, June 18: Headache; 40 lines Cuvier's 'Theory of the Earth'; 64 pages French; 11 hours' forging.

"Tuesday, June 19: 60 lines Hebrew; 30 pages French; 10 pages Cuvier; 8 lines Syriac; 10 lines Danish; 10 lines Bohemian; 9 lines Polish; 15 names of stars; 10 hours' forging.

"Wednesday, June 20: 25 lines Hebrew; 8 lines Syriac; 11 hours' forging."

Is it any wonder that this Self-Reliant blacksmith—working with his muscles by day and with his brain by night, filling every moment with a useful

occupation—won international fame and a place among the great men of the earth?

The famous Scotch scientist, John Hunter, who made an anatomical collection which the English government bought for seventy-five thousand dollars, learned to read and write while working at the carpenter's bench. He believed it was in him to become a great man and did not hesitate to say so. By sacrificing the amusements in which his friends wasted their time, by reducing the allowance of sleep to a minimum, he was able to place himself at the head of the medical profession in a few years, besides making the world his debtor for many remarkable discoveries.

If a man firmly believes that he has the powers within him by which success can be won, nothing can keep him from doing his best to develop those powers. SELF-RELIANCE is the inspiration to self-education. "Others have succeeded who were once no better equipped, why not I?" is the language of the man who trusts himself.

**The Habit of
Self-Reliance**

SELF-RELIANCE is not to be regarded as a transitory inspiration, a sudden but fleeting exhibition of nerve; it is rather the steady habit of always thinking of one's self as competent, as able to make dreams and desires actual and real by personal effort. It is a settled conviction that remains with a man through his reverses and disappointments,

constantly encouraging him to try again, to persist in spite of everything. The experience of one of America's most successful mine developers, as told in "The Consolidated Encyclopedic Library," should stimulate many a discouraged or hesitating man to fresh endeavor:

"Adolph Sutro came from Germany to America in 1850 and set his face toward the West. He was then a youth of twenty, with a special education in mineralogy and mining engineering. He mined for ten years in California, but with meager returns, and with success always just beyond his reach. Finally he took to keeping a small tobacco store, the proceeds from which barely sufficed to bar the wolf from the door. His neighbors set him down as a failure, but he refused to agree with them. Instead, he studied his books on mining in his leisure hours, and waited for his opportunity. It came to him in 1864. The men who had control of the mines of the "Comstock" lode had gone so deep into the rocks with their shafts that the cost of keeping them free from the incoming waters exceeded the value of their output. Sutro visited the 'Comstock' and closely examined the shape of the ore-yielding mountain. He decided, after several weeks' inspection, that the plan he had half formed was feasible, and he went to work at it. His scheme was to bore a hole under the mountain to the lowest level of the mines, and let the water, the pumping of which was so costly, drain away of its own accord. It would cost much money to bore such a

hole, but the profit from it, to its projector's thinking, would be certain, for the owners of the mines would gladly pay well for its use as a drain. Sutro's acquaintances laughed at his plans, but their skepticism did not trouble him, and ere long he was receiving subscriptions to the stock of his quickly-organized tunnel company. When he had \$100,000 in hand he set men and drills and steam engines at work on the tunnel. Years elapsed, however, before the last piece of rock was chipped out of the hole; but the early struggle for working capital was as nothing to the fight which came in 1870. Sutro in his contest had against him the Bank of California, nearly the entire delegation in Congress from the Pacific Coast, and the firms that worked the mines and mills. Odds of this sort would have discouraged and crushed another man, and Sutro would have avoided the fight if he could have done so, but to shrink then meant ruin. His ready money and all he could borrow had been absorbed, and his only available resource was a small piece of real estate. He sold this for \$350 and with the proceeds journeyed to Washington, where a bill had been introduced in Congress, the passage of which would have rendered the tunnel of no value to its projector. . . . The bill failed of passage, after a long and desperate struggle, and Sutro returned triumphant to Nevada. The completion of the tunnel nine years later made him a many-times millionaire."

**Self-Distrust is the
Beginning of
Failure**

By failing to understand their own resources men form the habit of regarding themselves as inferior. They grow to think of themselves as fated to be failures, and that thought is like a heavy weight to the swimmer—in the end it sinks him. Thought always precedes action. If a man can once firmly convince himself that he is qualified to succeed, he has gained the greatest ally in the world. If he constantly anticipates failure, he invites failure. Self-distrust is the seed of a blighted harvest. Nothing so quickly robs a man of hope and courage as does self-fear. Hargreaves was the real inventor of the spinning-jenny. When he set forth his idea it was met with a storm of anger and abuse. In obedience to the popular cry he gave up his invention and died in obscurity and distress. Arkwright took up the abandoned idea, pressed it upon the commercial world in spite of the bitterest opposition, and won both wealth and fame.

Some years before Alexander Graham Bell perfected his telephone, Daniel Drawbraugh, of Milltown, Pennsylvania, constructed an electrical instrument by which the human voice could be heard through a wire, but he had not sufficient SELF-RELIANCE to push his invention upon the general notice, and Bell won the rewards which Drawbraugh might have shared. John Fitch, a clever and brilliant man, anticipated Fulton's steamboat by many years. He built and ran several steam-propelled ships with

complete success. Failing to arouse enthusiasm in America, he went to France in the hope of finding appreciation. There he was disappointed also. He filed his plans and specifications with the American Consul in Paris and returned home. Some time later these documents were lent to Robert Fulton, who immediately saw the practical value of the invention. Fitch struggled on for a little while against discouragement and neglect, and then, losing faith in himself, he committed suicide in 1798. Nine years later, Fulton returned to America from France, made his successful experiment with the steamship "Clermont" on the Hudson, and won the rewards and honors which might have gone to Fitch had he possessed a larger degree of SELF-RELIANCE.

Other reasons may sometimes be given to account for success, but we are confident that the highest achievements of history have not been accomplished without SELF-RELIANCE. Occasionally we find men who believe themselves to be out of the race for success because Nature has apparently handicapped them with some physical defect. While this may disqualify a man from achieving great results in one or another direction, it does not shut all of the doors of opportunity. Instead of striking the flag to our limitations and misfortunes, it is the first duty of courage to discount and remedy them. They are no excuse for failure. Of all the voices that speak words of delusion in our ears, none is more persuasive and enervating than the whine of our own disabilities.

"If you were built like other men," the voice says, "there could be no excuse. But you were sent into the world so imperfectly equipped, so foredoomed to failure, that no one can reasonably expect you to win." The man who listens is lost. Get up and fight; determine that you will not be beaten; call up your reserves of energy and make the most of every faculty and power you possess; above all things, march forward in the conquering spirit of SELF-RELIANCE.

In thousands of instances deficiencies and deformities have not only not checked, but have been the spur which has driven the man on to success. Most of the world's greatest achievements have been against odds compared with which ours are probably not worth noticing. Sir Walter Scott and Lord Byron were both cripples, and Sir Walter wrote much of his best work when writhing in pain; Alexander H. Stephens, the brilliant Southern leader and one of the most powerful men who ever sat in the United States Senate, was twisted and gnarled by suffering and unable to walk a step while the country was ringing with the fame of his matchless eloquence; Nelson with only one eye and one arm broke Napoleon's power upon the sea; Parkman the historian was almost blind and a chronic invalid; Fawcett, England's most famous Postmaster-General, was totally blind, as is Herreshoff, the skilful yacht designer; Galileo continued his work long after sight failed, and Milton wrote "Paradise Lost" with light

denied; Bunyan was in jail when he composed "The Pilgrim's Progress," so was Sir Walter Raleigh when he penned the "History of the World"; Richard Baxter, who spent most of his life alternating between a sick bed and a prison, nevertheless gave to the world one hundred and eighty-six ponderous volumes; Darwin, the apostle of evolution, could not work more than two hours a day; James Watt, the father of the steam engine, was so frail and fragile from disease that he could only work by snatches between attacks; Dr. Kane, the most intrepid of explorers and travelers, made his terrible journeys, even his famous dash for the Pole, when crippled with rheumatism and in momentary danger of death from heart disease; Robert Louis Stevenson did all of his finest writing after he was doomed to die of consumption—when he could not write he dictated, when he dare not speak for fear of bringing on a hemorrhage he still dictated upon his fingers in the deaf and dumb alphabet; Thomas Spencer Baynes, the editor of the "Encyclopaedia Britannica," accomplished his monumental task with only the half of one lung; Beethoven composed his noblest music when deaf and unable to hear a note, and Edison, the wizard of the world of invention, is likewise very deaf; Francis Huber, the Swiss naturalist, became a celebrated entomologist and writer upon natural history after becoming totally blind; John Richard Green wrote his "History of the English People" upon his death bed, his friends averring that only his indomitable will kept him

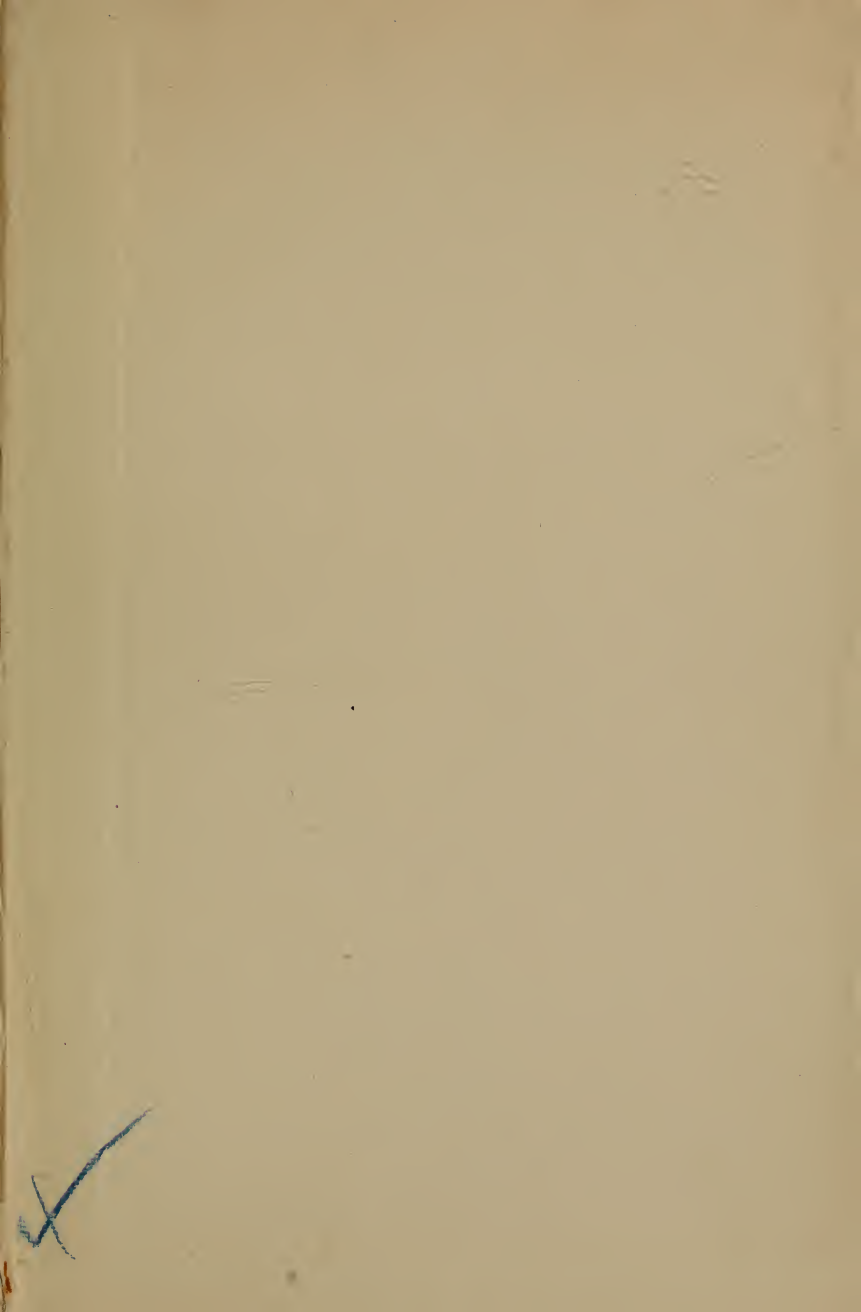
alive to its close; Cecil Rhodes was sent out to Africa to die of an incurable disease, but before he obeyed the summons he carved an empire out of the Dark Continent and made himself one of the richest men on earth; and, to go back across the centuries, Julius Cæsar, the world conqueror, was an epileptic and throughout his marvelous campaigns his life was never worth an hour's purchase.

Are we not shamed into silence and whipped into action by such a roll-call of heroes? The maimed, the broken, the disabled, the diseased, have accomplished history's most glorious deeds. Our ills and ailments, our defects and disqualifications, are a mere bagatelle by the side of theirs. To refuse the challenge of life on account of them is a million times worse than defeat—it is cowardice.

SELF-RELIANCE is the habit of relying upon oneself. We must rest our claim to success upon the powers that are stored within us. We must confidently believe that we are equipped to meet every emergency, to overcome every obstacle, to win every battle. In study there is no subject that we cannot master; in life, there is no problem that we cannot solve. To cultivate SELF-RELIANCE we must practice it. We cannot buy or borrow it; we do not need to because we have it. Simply use it; be Self-Reliant!



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